```
1 gtgcccacaactcctagtaa......acgcgtgcatgcgacgtcat 1800
                                                                                                                                                                          2944280
GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                       1472140 seqs, 8248589755 residues
                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                  OM nucleic - nucleic search, using sw model
                                                                                                                            IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_htg_hum:*
em_htg_inv:*
em_htg_rod:*
em_htg_rod:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              em_vi:*
em_htgo_hum:*
em_htgo_inv:*
em_htgo_rod:*
                                                                                                                                                                                          Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                        US-09-645-337-3
1800
                                                                                                                                                                                                                                                                1: 9b_ba:*
2: 9b_htg:*
3: 9b_ln:*
4: 9b_on:*
5: 9b_ov:*
6: 9b_pt:*
7: 9b_ph:*
8: 9b_pl:*
9: 9b_pr:*
10: 9b_sr:*
11: 9b_sr:*
12: 9b_sy:*
13: 9b_sy:*
14: 9b_vi:*
15: em_ba:*
16: em_ba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                     em_ov:*
em_pat:*
em_ph:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          em_ro:*
em_sts:*
                                                                                                                                                                                                                                                                                                                                                                                                                em_hum: •
                                                                                                                                                                                                                                                                                                                                                                                                                           em_in:*
em_om:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                em_pl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                             em_or:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     em_un:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             em_sy:*
                                                                                                                                                                                                                                                          GenEmb1:*
                                                                                                                                                                                                                                                                                                                       Title:
Perfect score:
                                                                                                                            Scoring table:
                                                                                                                                                                                                                                                          Database :
                                                                                                            Sedneuce:
                                                                                                                                                       Searched:
                                                     Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Ouery Score Match Length DB ID 1739 99.9 1800 6 AXXI 1728 99.9 1800 6 AXXI 6156 34.2 1742 8 AFD 529.4 29.1 1742 8 AFD 523.4 29.1 1807 8 AFD 444.6 24.7 1985 9 AXD 435.4 29.1 1807 8 AFD 436.6 24.3 1611 9 AXD 435.4 29.1 1899 10 MM 435.2 24.2 2111 6 AXD 436.6 22.4 2291 8 AXD 421.2 23.4 1646 5 AFD 421.2 23.4 16	¢	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																				D50405	AR01200	162388	E11455	AC01415	AE00348	AB02303	AF03291	AF04332	AF03975		AF08671	S66438	x83226	AY03520		m :	3.1	, œ	ALIGNMENTS		-	14112.			Embryophyta; T Jons; core eud	icaceae; Arabidopsi	d Brown, D.C.	n plants	N 2001;	and Agri-Food (CA)
Score Match Length DE 1799 1792 1792 1732 1793 1793 1793 1793 1793 1793 1793 1793	ID	AX13901	AF19554	SCOULAK I	AB00826	AF04547	AF38403	AF03581	AX13901	AF19554	AF01482	AF33287	AFZBZBS	DEN133E	AF02694	AX05310	HSU3181	XIABOL	AX05310	HSU5007	BCCCCC3C	D50405	3 AR01200	162388 162388	22 E11455	2 AC01415	3 AE00348	3 AB02303	3 AF03291	AF04332	AF03975	3 AF02065	3 AF08671	S66438	SCONAN	3 AY03520	3 AF37789	AF0397	OMA133	AF074	ALIG		DNA DNA	cent EPIU9			na Lantae; St noliophyta	II; Brassi	J) [ian, L. an	oression i	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	carrage
Score Match 1799 1732 712.8 713.8	gth D	1		1663	7991																					1246	1769	1465															4	-	GI		ss. Is thaliar Viridip] Nyta; Magr	eurosids]	I to 1800	gene ext	2117601	10 10 10
S S S S S S S S S S S S S S S S S S S	Query Match	99.	96		. 6	34.	30.	29.	29.	29.	29.	. 20 1	. 7	2,00	25.	24.	2.5	. 4	24	24.	24.	24.	24	24.	24.	33.	23.	23.	23.	23.	23.	23.	23.	22.	22	22.	21.	21.	21.	21.						,	nale cres rabidopsi nkaryota; permatoph	Sidae; e	(Dases	pressing	acent. Er	7
	cor	ì																																403	4 6	40	383.	379.	379.	378.						• +	NISM					7

	0,																
	aps	09	120	180	240	300	360	420	480	540 540	009	099	720	780	840 840	006	096
others	ngth 1800; ndels 0; G	caaatttgctctgag 	gagtgagagacggag 	ggacgtaageggega 	caaggccacccgatg 	acctccaccgtcgc 	gattccattcgccg 	atcetteegetgea 	acggacttttgat 	taaacagacaggac 	aaagcgaggettet 	ccaagatgtttaag 	aagaagcgtttac 	ttttcccaggaact 	taaatgttccacta 	ttatccagaaggtt TTATCCAGAAGGTT	gactectaagtggt
476 t 1	19; DB 6; Le 1. 0; 1. ches 0; I	gcattgttgacaca 	igagagattet 	gtcgggacccgacg 	ctactacggt 	aatcattcactatcacc 	tecgatateggees 	gaatctatgggcga! 	tgteetgtettega GTCCTGTCTTCGA	gctgccgtcaaatta 	caccatgctaagaaaagc 	gattetggagttgete 	gagatggagtgg 	gggact 	gaaatactatgete! 	tgtttagacctc 	tggtgct TGGTGCT
-"taxon:3702" c 456 g	9%; Score 1799 .0%; Pred. No 0; Mismato	aatgactttctcagg 	jagactctgagtgaga 	gcatetetegeeg 	cgacgateggagaeta 	ggctcatagcct 	agcctcgctgacgcc 	cttccgtttcgccgg 	aatgtcggtgaggat 	ggaggttctattggtg 	gggcggtgggctt 	acategtgetaggg 	tgatgtccaccatgg 	ctgtttctttccacaaattg 	rctgaaaaagg CTGAAAAGG	tgaaagtttcogcaget1 	agaggcagttgttcttcagtg aGaGGCaGTTGTTCTTCAGTG
/db_xref 78 a 389	99. larity 100 Conservative	acaactcctagta 	tgggaatagagagag 	cagacgaaagcg 	acttctacgago 	accggatccgtate 	agtegeect 	ttgacttcctcg 	ctaaggegatteaa 	gtgetteegee 	tegetateaattgggg 	gctatgtaaacg 	ctctacatagatati 	gatagagttatgac GATAGAGTTATGAC	taagagatgttggcg 	gtatggacgatga 	gtgtatcagccaga
NT 4	Match ocal Simi s 1800;	tgeec 	1 taaaact	1 atggagg ATGGAGG	gtcagtt 	aagcctc 	ttagaaatc	gagtatg GAGTATG	cgaaac 	tttgcc	gctgata 	gggttt GGGTTTT	cgggtt 	accact ACCACT	ggtcacate 	aacgatg AACGATG	atggaag ATGGAAG
ASE COUN	Query Mai Best Loca Matches		9 9	12	y 181 0 181	7 241 5 241	, 301	, 361) 361	421	/ 481 > 481	/ 541 > 541	, 601	, 661) 661	721	781	841	901
26 10		S a	OY DP	o d	6 8	Oy Dp	Oy Dp	S S	oy B	O P	o G G	0y 0b	o S	Oy Db	9 9	S G	S G

```
Arabidopsis thaliana
Bukaryota; Viidiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Rosidae; eurosids II; Brassicales; Brassicaceee; Arabidopsis.
 1020
                                   1080
                                                                      1200
                                                                                                                            1200
                                                                                                                                             1260
                                                                                                                                                             1260
                                                                                                                                                                                1320
                                                                                                                                                                                                1320
                                                                                                                                                                                                                   1380
                                                                                                                                                                                                                                   1380
                                                                                                                                                                                                                                                     1440
                                                                                                                                                                                                                                                                       1440
                   1020
                                                      1080
                                                                                                                                                                                                                                                                                         1500
                                                                                                                                                                                                                                                                                                                           1560
                                                                                                                                                                                                                                                                                                                                             1560
                                                                                                                                                                                                                                                                                                                                                               1620
                                                                                                                                                                                                                                                                                                                                                                               1620
                                                                                                                                                                                                                                                                                                                                                                                                 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                     1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1800
                                                                                                                                                                                                                                                                                                          1500
                                                                                                                                                                                                                                                                                                                                                                                                                  1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AF195548 1733 bp mRNA PLN 01-NOV-2000 Arabidopsis thaliana putative histone deacetylase (RPD3B) mRNA, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ţu
                                                                                                         gateggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttcggttctta
         agatettacaacgtteeteteatggtgttgggtggtgaagggtataetattegaaatgtt
                                            caactttcgggactaatacacgcacctagcgtccagtttcagcacaccaccagtcaat
                                                                                                                                                                                                                   cgagttttqgacgagccggaagatgacatggagacaagaccaaaacctcgcatntggagt
                                                                                                                                                                                                                                                     ggaactgcgacttatgaatcagacagtgacgatgatgatgataaacctcttcatggttactca
                                                                                                                                                                                                                                                                                         tgtcgtggtggcgcaactacggacagggactctaccggtgaagatgaaatggatgacgat
                                                                                                                                                                                                                                                                                                 aacccagagccagacgtgaatcctccatcgtcttaaaccagcttgatgtttggtgtctc
                                                                                                                                                                                                                                                                                                                                    ttttgccatatgataatgtcggcagatttaagaaacaagttaggggaatgattctt
                                                                                                                                                                                                                                                                                                                                                                       1 (bases 1 to 1733)
Wu.K., Malik,K., Tian,L., Brown,D. and Miki,B.
Functional analysis of RPD3 histone deacetylase homologs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AF195548.1 GI:11066140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        thale cress.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AF195548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
961
                                                                                        1081
                                                                                                                          1141
                                                                                                                                                                                                                                                                                        1441
                                                                                                                                                                                                                                                                                                                                                                              1561
                                   1021
                                                                      1081
                                                                                                         1141
                                                                                                                                                             1201
                                                                                                                                                                              1261
                                                                                                                                                                                                                  1321
                                                                                                                                                                                                                                                    1381
                                                                                                                                                                                                                                                                     1381
                                                                                                                                                                                                                                                                                                        1441
                                                                                                                                                                                                                                                                                                                          1501
                                                                                                                                                                                                                                                                                                                                            1501
                                                                                                                                                                                                                                                                                                                                                              1561
                                                                                                                                                                                                                                                                                                                                                                                                1621
                                                                                                                                                                                                                                                                                                                                                                                                                 1621
                                                                                                                                                                                                                                                                                                                                                                                                                                   1681
                                                                                                                                            1201
                                                                                                                                                                                                                                   1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
AF195548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCUS
ò
                g
                                   ò
                                                   셤
                                                                      ò
                                                                                      g
                                                                                                          ò
                                                                                                                        q
                                                                                                                                            ò
                                                                                                                                                            g
                                                                                                                                                                              ò
                                                                                                                                                                                               q
                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                       οý
                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

```
1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1561
                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1501
                                                                         601
                                                                                                                                                199
                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1441
 541
                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                    g
                                                                         ò
                                                                                                                                              ò
                                                                                                                                                                                   g
                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                         /product="putative histone deacetylase"
/product="putative histone deacetylase"
/product="putative histone deacetylase"
/product="putative histone"
/do_xref="G1:11066141"
/do_xref="G1:1106141"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                         2 (bases I to 1733)
Wu,K., Tian,L., Malik,K., Brown,D. and Miki,B.
Direct Submission
Submitted (18-OCT-1999) Eastern Cereal and Oilseed Research Centre
Agriculture and Agri-Food Canada, Ottawa, Ontario KlA OC6, Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gagtatgttgacttcctcgcttccgtttcgccggaatctatggggcgatccttccgctgca 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cgaaaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacggactttttgat 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9tgcccacaactcctagtaatgactttctcaggcattgttgacacaaattttgctctgag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 GTGCCCACAACTCCTAGTAATGACTTTCTCAGGCATTGTTGACACAAATTTTGCTCTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gtcagttacttctacgagccgacgatcggagactactactacggtcaaggccacccgatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ttagaaatcagtcgccttagcctcgctgacgcctccgatatcggccgattccattcgccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 1732; DB 8; Length 1733;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                        /organism-"Arabidopsis thaliana"/cultivar-"Columbia"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96.2%; Scor.
100.0%; Pred. No. v,
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         466 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STGEDEMDDDNPEPDVNPPSS"
                                                                                                                                                                                               /db_xref="taxon:3702"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       439 g
                                                                                                                                                                                                                                                                                                 /codon_start=1
                                                                                                                                                                                                                                                          121. .1536
/gene="RPD3B"
                                                                                                                                                                                                                                       /gene="RPD3B"
Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           374 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.
Matches 1733; Conservative
                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                  REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                        JOURNAL
                                                                                                                           FEATURES
                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

```
tgatgttttttcagcaaccttttgagttctgtgaaaacgctgcattgattagaacagtga 1680
                              009
                                                                                            9
                                                                                                                           720
                                                                                                                                                                                           780
                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                        096
900
                                                                                                                                                                                                                                                                                                                          GATCGGTTGCGTTGCTTCAACTTATCAGTCAAGGGTCACCTGATTGCCTTCGGTTGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agatettacaacgtteeteteatggtgttggggtggtgaagggtatactattegaaatgtt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cettacaatgagtattttgagtatttcggcccagattatacgcttcatgtcgacccaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cctatggagaatttaaacacgcccaaagatatggagaggataaggaacacgttgctggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cgagttttggacgagccggaagatgacatggagacaagaccaaaacctcgcatntggagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ggtcacataagagatgttggcgctgaaaagggaaatactatgctctaaatgttccacta
                                                                                                                                                                                                                                                                                                                                                                                                                                                        gateggttgggttgetteaacttateagteaagggteaegetgattgeetteggttetta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1321 CGAGTTTTGGACGAGCCGGAAGATGACATGGAGACAAGACCAAAAACCTCGCATNTGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ggaactgcgacttatgaatcagacagtgacgatgatgataaacctcttcatggttactca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1381 GGAACTGCGACTTATGAATCAGACAGTGACGATGATGATAAACCTCTTCATGGTTACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aacccaqaqccaqacqtqaatcctccatcqtcttaaaccagcttgatggtttggtgtctc
 getgatategetateaattgggggggtgggetteaeeatgetaagaaaagegaggettet
                gggttttgctatgtaaacgacatcgtgctaggggattctggagttgctcaagatgtttaag
                                                                               cgggttctctacatagatattgatgtccaccatggagatggagtggaagaagcgttttac
                                                                                                                                                                                                                                                                                           GGTCACATAAGAGATGTTGGCGCTGAAAAAGGGAAATACTATGCTCTAAATGTTCCACTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTATGGAGAATTTAAACACGCCCAAAGATATGGAGAGGATAAGGAACACGTTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

qq

a ò

```
VVGPLIIALYIKMFQGLCSLYAFCFNQTIKMIRNLPSYYLVAYQYIADGKLKDDVKAL
                                                                                                                                                                                                                                                                                                                                                /LTAIN 1 at 10n-"MKWWCEHVVOLVLEVKERLAKDCTSLPLGKYGRDDEDMILWFL
KDRRESVDEALGKLTKA I VSSSLCFLVLLS I LIHVERKLETSTSLLCRTCR IK SHVVF
FCKI IDKVDELSEDSI KAATDTGKAV VHGFLDVKGRPVVI VAPAKHI FGLLLDP I EDEK
LCVFLLERALSKLERDAGOHKI LIGI FDLRGFGSQNADLKFLTFLEFURYYYYPSRLDEVL
FVDAPE I FQP I WQFTKPLVKQYASLVKFCSAETVRKEYFTEETLPSNFRS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /translation-*MAINEPERATAVAVATKKRTFKKFSFRGFNVDALLKMSNVDLAK
LFNARVRRRFFRGLKKOPLILIKKLRRAKKEASDENKMKPEVVKTHLRNMIIVPEMIG
SVVGVHNGKKFNEIVIKPEMIGHYLAEFSMTCKKVNHHRPRICGCCFRRSTRFIPLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DYRFYWGGKCSWTHANDYRSYSWSANVCGKKRWIELPPPOCHLYYDGGCSCS
DYRFYWGGKCSWTHANDYRSYSWSANVCGKKRWIELPPPOCHLYYDGGCTOLOGGCS
DEPOELIFVPSGWHHQVYNLEDTISINHNWLNAYNLSWWWDLLWKDYKDTEESIEDIR
DICODFEAICQRNLAANTGMNLNDFFLFWSFFSLGNNYLLQSYSDKHKNLNSCSLAMA
QULLMNLSTILKVWMKMISAGGVTAEEVYLDLRETLEDPQFLRFVRDMGRTYARIHME
EEDQFLSSKELLQKLGGLAGDNWQICSPKDLVEMINHHNTFSSQIYFI"
//note="qb|Aab60912.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /evidence=not_experimental
/protein_id="BAB10551.1"
/bcatein_id="R1:10177290"
//translation="RASSSWSYNSPOAACKFLRRKCMPGCIFAPYFPPEEPHKFANVH
//translation="RASSSWSYNSPOAACKFLRRKCMPGCIFAPYFPPEEPHKFANVH
KIFGASNVTKLLNELLPHQRREDAVNSLAYEARARVRDPVYGCVGAISYLQROYHRLOK
ELDAANADLAHYGLSTSAAGAPGNVVDLVFQPQPLPSQQLPPINPVYRLSGASPVMNQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /translation-"MGIQ1IGQ1ERINGKELSYGDFAERYLAKNOPVVISDLTEDWRA
REDWYSENGNPNLHVFATHFGKSRVQVADCDTREFTDQKRLEMSVTEFVEQWTNKDS1
EESVLYLKDWHFVKEYPDYTAYQTPPLFSDDWLNVYLDNYQMHEDRDSFQKYDQ1SCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GWELDPSVIDVGREFFGLSKIERDHKDRIF INIGDALNASVKTGFSGTLVDLFFSKGSV
IKELQDPQVWEDLKSRLRYRGRIMVNVGGKCVEAEDSDRDGALVWEETLRVWGQVFGD
KTVTJGANGNDSSYALTGDLPDLDAWKKRLPRSELRSYVDWMIPYREFCLRY"
COMPIEment (join(24469. .24538,24651. .24781,24879. .24969,
25228. .23370,25455. .25905,26323. .26862))
                                                      VFKPVVAIKNTDYKELTRTKLKOFOEWIIEKYLDFVESVWPYYCRTIRFLKRANL, I **
comptement(join(3717. 3794,3914. 4036,4136. 4288,
4376. 4501,4501. 4886))
/note="gene_id:MDC12.2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RTDSHRNKTSADDNGIPAEDVKTIAKFKSRHNYĪRVIEVSRKTNHPLAGSRLLLLDNP
GNIHSISFLLKTLTDSYFDVFATLPPIIPPGPIGILGFGAGSTARLILELYPPEIAVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /translation="MARELVSLQYLRPPLHISRQFLNLSSPPLTLNLRPKPPQNPIFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          complement(join(8661..9100,9322..9433,9528..9584,
9663..9743,9997..10118,10216..10378,10488..10625,
10747..10956))
/note-"gene_id:MDC12.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /evidence=not_experimental
/product=+40s ribosomal protein S15-like protein"
/protein_id=*BAB10549.1*
/db_xref="G1:10177288"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene_id:MDC12.5
similar to unknown protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MPRGTGGSYGTFLPWNNGHDQOGGNM"
complement(23069, .24058)
/note="gene_id:MDC12.6
unknown protein"
                                                                                                                                                                                                                                                   /evidence-not_experimental
/protein_id="BAB10548.1"
/db_xref="G1:10177287"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /evidence-not_experimental
/protein_id="BAB10550.1"
/db_xref="G1:10177289"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /evidence=not_experimental
/protein_id="BAB10552.1"
/db_xref="G1:10177291"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /evidence-not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        complement(7813, .8295)
/note="gene_id:MDC12.3"
                                                                                                                                                                                            unknown protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /codon_start-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /codon_start-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /codon_start-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /codon_start-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Address for correspondence: Assaékazusa.or.jp

Address for correspondence: Assaékazusa.or.jp

For the latest information on annotation of this clone, please see http://www.kazusa.or.jp/kaos/cgi.bin/add_graph.cgi?c=MDC12

Genes with similarity to proteins in the databases are described in 'product' or 'note' qualifiers. Genes that have no significant protein similarity are described as 'unknown protein'.

The software programs used to predict genes include: Grail (Informatics Group, Oak Raide National Laboratory, GENSCAN (Chris Burge, MIT, http://CCR-081.mit.edu/GENSCAN.html), NetGene2 (S.M. Hebsgaard, et al., CBS, Technical University of Denmark, http://www.cbs.dtu.dk/services/NetGene2/) and SplicePredictor (Volker Brendel, Stanford University, dthtp://gremlinl.zool.iastate.edu/cgi-bin/sp.cgi).

Genes encoding tRNAs are predicted by tRNAscan-SE (Sean Eddy, Washington University School of Medicine, St. Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       http://genome.wustl.edu/eddy/tRNAscan-SE/).
This sequence may not be the entire insert of this clone. It may be shorter because we remove overlaps between neighboring submissions.
The 5' clone is MJH22 and the 3' clone is K9H21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 (sites)
Nakamura,Y., Sato,S., Kaneko,T., Kotani,H., Asamizu,E., Miyajima,N.
and Tabata,S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /evidence-not_experimental
/protein_id-"pAB10547.1"
/db_xref-"GI:10177286"
/translation-"wrGQPAIQXLEKKWLTLLRTQSPIQVIDETLGGEQVPQTTKQET
ETEIRKAESLOSTKNTVWSNFWSLDAAIKIPLLFVPAFLAVYAIGGAEVTKELSPWW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                     1621 TGATGTTTTTCAGCAACCTTTTGAGTTCTGTGAAAACGCTGCATTGATTAGAACAGTGA 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Arabidopsis thaliana (strain:Columbia) DNA, clone_lib:Mitsui Pl
                                                                                                                                                                                                                                                                                                                                                                        Arabidopsis thaliana genomic DNA, chromosome 5, P1 clone:MDC12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Structural analysis of Arabidopsis thaliana chromosome 5. III. Sequence features of the regions of 1,191,918 bp covered by seventeen physically assigned Pl clones DNA Res. 4 (6), 401-414 (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (24-OCT-1997) Yasukazu Nakamura, Kazusa DNA Research
Institute, Department of Plant Gene Research; 1532-3, Yana,
Kisarazu, Chiba 292-0812, Japan (E-mail:ynakamu@kazusa.or.jp,
Tel:81-438-52-3935, Fax:81-438-52-3934)
                                                                                                                                                                                                                                                                                                                                                   27-DEC-2000
/organism-"Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone_lib="Mitsu! Pl"
join(2581. .2816,3020. .3434)
/note="gene_id:MDC12.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="taxon:3702"
/chromosome="5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /strain-"Columbia"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone-"MDC12"
                                                                                                                                                                                                                                                                                                                                                                                                                                         AB008265.1 GI:2618600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /codon_start*1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 (bases 1 to 81662)
Nakamura, Y.
                                                                                                                                                                                                                                                                                                                                         81662 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                          AB008265 BA000015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             clone: MDC12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                       AB008265/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
                                                                                                                                                                                                                                                                           RESULT
```

```
GEFKILQVADMHFANGAKTQCONVLPSQRAHCSDLNTTIFMSKVIAAEKPDLIVFTGD
NIFGFDVKDALKSINAAFARAIASKIPWVAILGNHDOESTFRQQVNNHIVKLPNTLS
QVNPPBAARYIDGFGNYNLQYHGAADSKADNKSVVLLVFFLDSGDYSSVPYMEGYDWIK
TSQOFWFDRTSKRLKERYNKRPNDOGIJAPGLAYFHIPLPFFLSFDSKNATKGVRQBG
TSAASTNSGFFTTLIARGDVKSVFVGHDHVNDFCGELKGLNLCYGGGFGYHAYGKAGW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /Lranslation-"MVAVDYTERNSGSSLKFLCSYGGRILPRSTDGKLRYVGGHTRVL
SYDRSISFSELMKKLYEROGYSVDLKOLPNODLETLISVKSEBELAEIVEBYDRICG
AKTRANLSPPRSSHTTESSYSSSGORSPKSPFSYTBSPPNSFPAYGRYLQSRYCLPS
TDLPPRRYIQRAEESHCCYACRVHKDSRLVWH"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /evidence=not_experimental
/protein_id="BAB10556.1"
/db_xref="G177295"
/translation="MADNRRRSLFDFLLFSVFLGLACLCLSPIPATAORRKLRFSVN
                                                                                                                                                                                                                                                                SLSGDRLGCFNLSVKGHADCLRFLRSYNVPLMVLGGGGYTTRNYARČMCYETAVAVGV
EPDNKLPYNEYFEYFGPDYTLHVDPSPMENLNTPKDMERIRNTLLEQLSGL1HAPSVQ
FQHTPPVNRVLDEPEDDMETRPKPRIMSGTATYESDSDDDDKPLHGYSCRGGATTDRD
                                                                                                                                                                                                                                                                                                                                                                  complement(join(27602, .27720,27816, .28049,28572, .28798, 28899, .28984,2908, .29181,29350, .29504,29589, .29750, .29842, .30021,30108, .30546))
/note="gene_ld:MDC12.8"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FSVGRGGGRGGYGQYGDRNGGGNWGGGGGGGGGSSKRELDSVSLPKQNFGNLVHFEKNF
YVESPTVQAMTEQDVAMYRTERDISVEGRDVPKPMKMFQDANFPDNILEAJAKLGFTE
PTPIQAQGWPWALKGRDLIGIAETGSGKTLAYLLPALVHVSAQPRLGQDDGPIVLILA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PTRELAVOIOEESRRFGLRSGVRSTCIYGGAPKGPOIRDLRRGVEIVIATPGRLIDML
EGGFTNLLKWYTYLJDEADRALDMGFEPOIRK TYGYRRDROYLLWASATWPREVETLA
ROFERDPYRAIIGSTRAMOSI INOVIEIVPPEKYRRLLTLKQLMGSKILIFVET
KRGCDQVTRQLRMDGWPALAIHGDKTQSERDRVLAEFKSGRSPIMTATIVAARGLUVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DIKCVVNYDFPNTLEDYIHRIGRTGRAGAKGMAFTFFTHDNAKFARELVKILQEAGGV
VPPTLSALVRSSGSSYGGSGGRRFRPRGGRGGGFGDKRSRSTSNFVPHGGKRTW"
join (31825. .31984, 32074. .32492)
//octe="igene_idimCol2.9"
unknown_protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
;
                                                                                           /translation="MEADESGISLPSGPDGRKRRVSYFYEPTIGDYYYGOGHPMKPHR
                                                                                                                                 IRMAHSLIIHYHLHRRLEISRPSLADASDIGRFHSPEYVDFLASVSPESMGDPSAARN
                                                                                                                                                                 LRRFNVGEDCPVFDGLFDFCRASAGGSIGAAVKLNRODADIAINWGGGLHHAKKSEAS
GFCYVNDIVLGILELLKMFKRVLYIDIDVHHGDGVEEAFYTTDRVMTVSFHKFGDFFP
                                                                                                                                                                                                                                GTGHIRDVGAEKGKYYALNVPLNDGMDDESFRSLFRPLIQKVMEVYQPEAVVLQCGAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /translation="MDPSAAPYNPRYTGGGGGYGPSPVMAGDNSGYNRYPSFQPPSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ERRARVVVVDLNKKRKGKWGAVKSIKTWKRLDDKHLSVIDSQVLWNNSANKLVVR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db 26992 GTGCCCACAACTCCTAGTAATGACTTTCTCAGGCATTGTTGACACAAATTTTGCTCTGAG 26923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /evidence=not_experimental
/product="ATP-dependent RNA helioase-like protein"
/protein_id="BAB10554.1"
/db_xref="GI:10177293"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 gigoccacaactcctagtaaigactttctcaggcattgitgacacaaattttgctctgag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   join(36872. .37172,37302. .37699,37781. .38251)
/note="emb|CAB76911.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     39.6%; Score 712.8; DB 8; Length 81662; 70.8%; Pred. No. 5.4e-190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         strong similarity to unknown protein"
deacetylase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /evidence-not_experimental
/protein_id="BAB10555.1"
/db_xref="G1:10177294"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /evidence-not_experimental
/product="tRNA-Thr(TGT)"
38879. .39295
                        /protein_id="BAB10553.1"
/db_xref="G1:10177292"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           38671. .38745
/note="gene_id:MDC12.11"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="qene_id:MDC12.12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene_id:MDC12.10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown protein'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /codon_start*1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Sin
Matches 1245;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              trna
                                                                                                                                                                                                                                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
```

```
26323
                                                                                                                                                        26562 CGAAACCTAAGGCGATTCAATGTCGGTGAGGATTGTCCTGTCTTCGACGACTTTTTGAT 26503
                                                                                                                                                                                                                                                                                                                                                               26383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26322 GTAAATGCTCCATTCCTTCTTTATGATCTCATCATAGAGAACTTCTTCATGTTCTTCTGA 26263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26262 AATTTTTAGGGTTTAAGCTTATCTTGAGTGGTTTTTTCTTAAATCTACCTGAAACCTTGAA 26203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26202 GCCTTGTGTGATTATCGAATGAGCTTTGATCCTTTCATGTTCCTAAACTGCATATTACCT 26143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26142 TTAGAATCTCATGTTAGGTCAAGTGCATCAGGTGTTTCTGATAAGGATGTTGATTTGTTT 26083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26082 GAGAATGGTTTTCTACATTGCCTCTTTGTTTTCATCGTCGTTCTTTAAGTTTTCTCTAA 26023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26022 TTAGGATTCCGTTGCTTTGTTAATGTATTCTGATAGCATCATTCAAAATGTTGAGT 25963
                                                                                                                                                                                                                                                                                                                                        540
                                                                                             240
120
                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 aagceteaceggateegtatggeteatageetaateatteactateacetecacegtege
            26802 GTCAGTTACTTCTACGAGCCGACGATCGGAGACTACTACGGTCAAGGCCACCGGTG
                                                                                                                                                                                         gggttttgctatgtaaacgacatcgtgctagggattctggagttgctcaagatgttta--
 cgaaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacggactttttgat
                                                                                                                                                                                                                                                                                                                                                                                       gctgatatcgctatcaattggggcggtgggcttcaccatgctaagaaaagcgaggcttct
                                                                                                                                                                                                                                                                                                                                                                                                               26442 GCTGATATCGCTATCAATTGGGGCGGTGGGCTTCACCATGCTAAGAAAGCGAGGCTTCT
                                              181 gtcagttacttctacgagccgacgatcggagactactactacggtcaaggccacccgatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 629
61
                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               629
                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 629
                                                                                                                                                                  qq
                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                   qq
                                                                                                                                            ò
                                                                                                                                                                                          ò
                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                        ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                             ò
```

724 actgatagagttatgactgtttctttccacaaatttggggactttttcccaggaactggt 783

ò

셤

g ò 셤

ò g ò d õ a g ò 8

õ

8

ò

ð

ò

d

ò

ò

```
Zea mays
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACC
clade; Panicoldeae; Andropogoneae; Zea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 (bases 1 to 1742)
Pipal, A. and Wegener, S.
Pipal, A. and Wegener, S.
Direct Submission
Submitted (28 47An-1998) Microbiology-Medical School, University of Innsbruck, Fritz-Pregl-Strasse 3, Innsbruck A-6020, Austria
Location/Qualifiers
                                                                                                                                                            tcttacaacgttcctctcatggtgttgggtggtgaagggtatactattcgaaatgttgcc 1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                        tgctgttggagtagagccggacaacaaccccttacaatgagtatttgagtatttcgg 1169
                                                                                                                                                                                                                                                                                                                                                                                                  ---agactgcagt 1109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-JAN-1999
cggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttcggttcttaaga
                                                                                                                                                                                                                                                                                                                                                                 CGTTGCTGGTGTTATGAGGTCTTTTCCATCTCCTTTGCAGTTCTTCTATGTTTTTTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="similar to Saccharomyces cerevisiae RPD3" /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AF045473 1742 bp mRNA PLN 28-JAI
Zea mays histone deacetylase (hdlb) mRNA, complete cds.
AF045473
                                                                                                                                                                                                                                                                                                                                       cgttgctggtgttatg------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product-"histone deacetylase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:4577"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Zea mays"
/cultivar="Cuzco"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25242 TATGGAGAGGATAAGGTA 25225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AF045473.1 GI:4193319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1230 tatggagagataaggaa 1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene-"hdlb"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene-"hd1b"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1. .1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Zea mays.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                    844
                                                                                                                                                            904
                                                                                                                                                                                                                    964
                                                                                                                                                                                                                                                                            1024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                               25722
                                                                                                                                                                                       25662
                                                                                                                                                                                                                                                                                                         25542
                                                                                                                                                                                                                                                                                                                                      1084
                                                                                                                                                                                                                                                                                                                                                                 25482
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                               1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            dene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AF045473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
```

```
A I KRENVGEDCPVFDGLFPFCQASAGGS IGAAVKLNRGDADI TVNWAGGLHHAKKSEA
SGFCYVNDI VLA I LELLKFHRRVLYVD I DVHHGDGVEEAFFTTNRVMTVSFHKYGDFP
PGTGH TTDVGAABGKHYALNYPLSDG I DDTTFRGLPOCI I KKWHEVYO PDVVVLOCGA
DSLAGDRLGCFNLSVKGHADCLRFLRSY NVPWWYLGGGYT I RNVARCWCY FTAVAVG
VEPDNRLPY NDYY PEYEGDPYTH I OPKSYRNINTTROLEN I KNMILENLSK I EHVYPST
OFHDRR SDPEAREEKEEDMDKRPPQRSRLWSGGAYDSDTEDPDSLKSEGKDVTANFGM
               /db_xref-"GI:4193320"
/translation-"MAASGEGVSLPSPAGGEDAHRRRVSYFYEPSIGDYYGQGHPMK
PHRIRMAHSLVVHYGLHRLLELSRPYPASEADIRRFHSDDYVAFLASATGNPGVLDPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 384
                                                                                                                                                                                                                                                                                                                                               145 tetetgecgtegggaecegaeggaegtaageggegagteagttaettetaegageegaeg 204
                                                                                                                                                                                                                                                                                                                                                                                                              205 atcggagactactactacggtcaaggccacccgatgaagcctcaccggatccgtatggct 264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   274 GCCACCGGAAACCC-----GGGTGTCCTCGACCCGCGCGCCATTAAGCGCTTTAACGTC 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               388 AGCATCGGCGCCGCCGTCAAGCTTAACGGGGGGGGGCGCGACATCACGTCAACTGGGGCG 447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  685 gtccaccatggagatggagtggaagaagcgttttacaccactgatagagttatgactgtt 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               565 ggtgggcttcaccatgctaagaaaagcgaggcttctgggttttgctatgtaaacgacatc 624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaaaaagggaaatactatgctctaaatgttccactaaacgatggtatggacgatgaaagt 864
                                                                                                                                                                                                                                                                                                                                                                                 63
                                                                                                                                                                                                                                                                                                                                                                                                                                 catagoctaatcattcactatcacotccaccgtcgcttagaaatcagtcgccctagcctc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 34 TCTCCGGCGGGGGGGGAGGATGCGCACCGCCGCGCGCTCAGCTATTTCTACGAGCCGTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               getgaegeeteegatateggeegatteeattegeeggagtatgttgaetteetegettee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              214 GCCTCTGAGGCCGACATCCGCCGCTTCCACTCCGACGACTACGTCGCTTTCCTCGCGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gtttcgccggaatctatgggcgatccttccgctgcacgaaacctaaggcgattcaatgtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                505 tctattggtgctgccgtcaaattaaacagacaggacgctgatatcgctatcaattggggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    625 gtgctagggattctggagttgctcaagatgtttaagggggttctctacatagatattgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   totttocacaaatttggggactttttoccaggaactggtcacataagagatgttggcgct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    445 ggtgaggattgtcctgtcttcgacggactttttgatttttgccgtgcttccgccggaggt
                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                               Length 1742;
                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                 .;
8
                                                                                                                                                                                                                                                                                                                0; Mismatches 369;
                                                                                                                                                                                                                                                                               Score 615.6; DB 8;
Pred. No. 9.1e-163;
                                                                                                                                                                                                               425
/protein_id-"AAD10139.1"
                                                                                                                                                                                                               Б
                                                                                                                                                                                                               453
                                                                                                                                                              KDEPKDDL"
1378. .1742
/gene="hd1b"
                                                                                                                                                                                                                                                                             34.28;
                                                                                                                                                                                                              457 c
                                                                                                                                                                                                                                                                             Query Match 34.2 Best Local Similarity 69.5 Matches 853; Conservative
                                                                                                                                                                                                               407
                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                               3'UTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   745 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   748
                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ογ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

..

us-09-645-337-3.rge

```
/translation-"MDPSSAGSGGNSLPSVGPDGGKRRVCYFYDPDVGNYYYGGGHPM
KPHRIRMTHSLLARYGLLNQMQVYRPNPARDRDLCRFHADDYINFLRSVTPFTQDDQI
RLLKRFNVGEDCPVFDGLYSFCQTYAGASVGGAVKLNHGHDIAINMSGGLHHAKKCEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sciences, Univ. of Missouri, 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zea mays
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Pakaryota; Poaceae; PACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-JUN-2001
                                                                                                                                                                                                                                             ttcggcccagattatacgcttcatgtcgacccaagtcctatggagaatttaaacacgcc 1224
                                                                                                                                                                                                                                                                                                                                                                                             1048 TTTGGCCCTGATTATACTCTTCATATCCAACCAAAAAGTGTTGAAAACCTGAATACCACA 1107
                                                                                                                                                                                                                                                                                                                                                                            aaagatatggagagataaggaacacgttgctggaacaactttcgggactaatacacgca 1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                    cctagogiccagiticagcacaccaccagicaatcgagititiggacgagccggaagai 1344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     985 tcagtcaagggtcacgctgattgccttcggttcttaagatcttacaacgttcctctcatg 1044
                                                                                                                                                1045 gtgttgggtggtgaagggtatactattcgaaatgttgcccgttgctggtgttatgagact 1104
                                                                                                                                                                                                                          gcagttgctgttggagtagagccggacaacaactcccttacaatgagtattttgagtat 1164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Zea mays histone deacetylase HDA101 (hda101) mRNA, complete AF384032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; clade; Panicoldeae; Andropogoneae; Zea.

1 (bases 1 to 1906)
Chandler, V.L., Kaeppler, S.M., Kaeppler, H.F. and Cone, K.C. Sequences from the Plant Chromatin Consortium (NSF Plant Geproject 9975930)
                                                                                           gttgttcttcagtgtggtgctgactccttaagtggtgatcggttgggttgcttcaactta
                                   GTTGTCCTCCAATGCGGAGCTGACTCTTTGGCTGGACAGGTTAGGTTGCTTCAACCTG
                                                                                                                                                                       928 GTTTTAGGTGGTGGAGGTTACACCATCAGAAATGTTGCACGCTGCTGGTGCTACGAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bergstrom,D., Springer,N.M., Schmitt,L.T., Guthrie,E.,
Sidorenko,L., Selinger,D., Kaeppler,S.M. and Cone,K.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product="histone deacetylase HDA101"
/protein_id="AAK67142.1"
/db_xref="G1:14550104"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="hda101"
/note="similar to mammalian HDAC1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (73-MAY-2001) Biological Sc
Tucker Hall, Columbia, MO 65203, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gacatggagacaagaccaaaacctcgca 1372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'db_xref="taxon:4577"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Zea mays"
/cultivar="B73"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /gene="hda101"
38. .1591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AF384032.1 GI:14550103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 1906)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1906 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .1591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .1906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zea mays.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AF384032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                  1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                           868
                                                                                                                                                                                                                        1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene
925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
AF384032
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               음
                                                                                                         8
                                                                                                                                                                                 g
                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                   셤
                                                                                                                                              ò
                                                                                                                                                                                                                        ò
                                                                        ò
```

```
PGTGD1RD1GHSKGKYYSLNVPLDDG1DDESYQSLFKPIMGKVMEVFRPGAVVLQCGA
DSLSGDRLGCFNLS1KGHAECVRYMRSFNVPLLLLGGGGTTIRNVAKOWCYETGVALG
DSPEDKMPVNEYYETFQPD7TLHVAPSNMENKYNTQQLDD1RSKLLDNLSKLRHAPSY
HYQERVPDTETPROPECQODPDERHQPDSDMEVDDHRAVEESSRRS1LG1KIRREFGE
NATRVQDGGRVASEHRGLEPMAED1GSSKQAPQADASAMAIDEPSNVKNEPESSTKLQ
                                                                                                                                                                                                                       3,
SGFCYVNDIVLAILELLKHHERVLYVDIDIHHGDGVEEAFYTTDRVMTVSFHKFGDYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         963 teggittgggttgetteaacttateagteaagggteaegetgattgeetteggttettaag 1022
                                                                                                                                                                                                                                                                                                                                                                                           243 geeteaceggateegtatggeteatageetaateatteactateacetecacegtegett 302
                                                                                                                                                                                                                                                                                                                                                                                                                             231
                                                                                                                                                                                                                                                                                                                                                                                                                                                               422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGAGGTTTTCCGCCCTGGTGCAGTTGTGCTTCAGTGTGGTGCTGATTCCTTGTCTGGGGA 882
                                                                                                                                                                                                                                                       126 ggcagacgaaagcggcatctctccgccgtc---gggacccgacggacgtaagcggcgagt 182
                                                                                                                                                                                                                                                                                         111
                                                                                                                                                                                                                                                                                                                                             112 GFGCTACTTCTACGACCCGGATGTGGGCAACTACTACTACGGGCAGGCCATCCGATGAA 171
                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              703 GGATATCCGTGACATTGGGCACTCAAAAGGGAAGTACTACTCCCTGAATGTCCCTCTCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     843 cgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggttat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    483 tigocotiocitcogcoggagoticiatiogiaciocogicaaattaaacagacogo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gttttgctatgtaaacgacatcgtgctagggattctggagttgctcaagatgtttaagcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            523 CTTCTGCTACGTCAATGACATCGTGCTCGCCATACTCGAGCTGCTCAAGCATCACGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                583 AGTICTGTATGTCGATATCGATATCCACCATGGTGATGGAGTGGAGGGGGTTTTCTACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       763 TGATGGGATTGATGAAAGCTACCAGTCCCTTTTTAAGCCAATCATGGGCAAAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactccttaagtggtga
                                                                                                                                                                                                                                                                                                                           183 cagttacttctacgagccgacgatcggagactactactacggtcaaggccacccgatgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cactgatagagttatgactgtttctttccacaaatttggggactttttcccaggaactgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   783 tcacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgttccactaaa
                                                                                                                                                                                                                                                                                         52 GGGGGGCTCCGGCGGCACTCCCTCCGTCGGTCGGCCCCGGACGGGCAGAAGCGGCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                               172 GCCGCACCCCATCCGGATGACGCACTCGCTGCTGCGCGCCTACGGCCTCCTCAACCAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    363 gtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttccgctgcacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    292 CTACATCAACTICCTGCGCTCCGTCACGCCGGAAACGCAGCAGGACCAGATC----CG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          543 tgatatcgctatcaattggggggggggtgggcttcaccatgctaagaaaagcgaggcttctgg
                                                                                                                                                                                       Length 1906;
                                                                                                                                                                                                                         Indels
                                                                                                                                                                                       Score 549.6; DB 8;
Pred. No. 4.2e-144;
                                                                                                                                                                                                                         0; Mismatches 394;
                                                                                                                     434
                                                                                                                   492 g
                                                                                                                                                                                       30.5%;
67.1%;
                                                                                                     GQAAAYHKP"
                                                                                                                       492 c
                                                                                                                                                                                                                       Matches 828; Conservative
                                                                                                                                                                                                         Best Local Similarity
                                                                                                                     488
                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            603
                                                                                                                   BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           823
                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                           å
                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

4,

```
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida: Poales; Poaceae; PACC clade; Panicoideae; Andropogoneae; Zea.

1 (bases 1 to 2047)
Rossi, V., Hartings, H. and Motto, M. Identification and characterisation of an RPD3 homologue from maize (Zea mays L.) that is able to complement an rpd3 null mutant of saccharomyces cerevisiae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /procedi_d="Addition="Districtions and the proceding and the proce
                                                                           1023 atcttacaacgttcctctcatggtgttgggtggtgaagggtatactattcgaaatgttgc 1082
                                                                                                                                                                                                                                   ccgttgctggtgttatgagactgcagttgctgttggagtagagccggacaacaaactcc 1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ttacaatgagtattttgagtatttcggcccagattatacgcttcatgtcgacccaagtcc 1202
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1063 TGTTAATGAGTACTATGAATACTTCGGTCCAGATTACACTCTTCATGTTGCACCAAGTAA 1122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1203 tatggagaatttaaacacgcccaaagatatggagagagataaggaacacgttgctggaaca 1262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Costs, V., Hartings, H. and Motto, M.
Rossi, V., Hartings, H. and Motto, M.
Direct Submission
Submitted (26-NOV-1997) Biologia Molecolare, ISC Bergamo, via
Stezzano 24, Bergamo, I 24126, Italy
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AF035815 2047 bp mRNA PLN 26-JUN-1998 Zea mays putative histone deacetylase RPD3 mRNA, complete cds AF035815.1 GI:2665839
   883 TAGGTTGGGCTGCTTCAACCTCTCAATCAAAGGTCATGCGGAATGTGTTAGGTATATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1123 CATGGAGAACAAAAATACACGACAACAACTGGATGATATACGATCTAAAACTTCTGGATAA
                                                                                                                                                                                                                                                                                                               1003 ACCCTGTTGGTGTTATGAGACTGGAGTTGCTCTTGGCCAAGAGCCTGAAGACAAGATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /product="putative histone deacetylase RPD3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mol. Gen. Genet. 258 (3), 288-296 (1998)
98307342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1323 agttttggacgagccggaagatgacatggagaca 1356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1243 AATACCTGAGCAAGATGAAGATCAAGATGATCCA 1276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /strain="W22"
/db_xref="taxon:4577"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism-"Zea mays"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="rpd3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141. .1682
/gene="rpd3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .2047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2ea mays.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                       1143
                                                                                                                                                                                                                                       1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AF035815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCUS
g
                                                                               ò
                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                               g
                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
1023 atcttacaacgttcctctcatggtgttgggtggtgaagggtatactattcgaaatg11gc 1082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           963 teggttgggttgetteaacttateagteaagggteaegetgattgeetteggttettaag 1022
                                                                                                                                                                 126 ggcagacgaaagcggcatctctgccgtc---gggacccgacggacgtaagcggcgagt 182
                                                                                                                                                                                                                                                                                                                                                                                                                        geeteaceggateegtatggeteatageetaateatteaetateaeeteeaeegtegett 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   423 aaacctaaggogattcaatgtcggtgaggattgtcctgtcttcgacggactttttgattt 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HILL II II II IIIIIII II II IIIIII BEE TEATGGGAATGATGGGCAAAGTTAT 925
                                                                                                                                                                                                                                                                                                                 275 GCCGCACCGCATCCGGATGACGCACTCGCTGCTGCGCGCTACGGCCTCCTCAACCAAAT 334
                                                                                                                                                                                                                                                                                                                                                                            335 GCAGGTGTACCGCCCCCAACCCGGCCCGCGAACGCGAACTCTGCCGCTTCCACGCCGAGGA 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 603 gttttgctatgtaaacgacatcgtgctagggattctggagttgctcaagatgtttaagcg 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            663 ggiticictacatagataligaigtecaceatggagaiggagiggaagaagagegilitaeae 722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactccttaagtggtga 962
                                                                                                                                                                                                                            cagitacticiacgagecgaegateggagaetactactaeggteaaggeeaeeegaigaa
                                                                                                                                                                                                                                                        215 GTGCTACTTCTACGACCCGGATGTGGGCAACTACTACTACGGGCCAGGGCCATCCGATGAA
                                                                                                                                                                                                                                                                                                                                               303 agaaatcagtcgccctagcctcgctgacgcctccgatatcggccgattccattcgccqqa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              363 gtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttccgctgcacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      543 tgatategetateaattggggeggtgggetteaeeatgetaagaaaagegaggettetgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGAGGTTTTCCGCCCTGGTGCAGTTGTGCTTCAGTGTGGTGCTGATTCCTTGTCTTGTGGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   746 AACAGATAGGGTTATGACTGTCTCGTTCCACAAGTTTGGTGATTATTTCCCAGGAACAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        843 egatggtatggaegatgaaagttteegeagettgtttagaeetettateeagaaggttat
                                                                                                       Length 2047;
                                                                                                      Score 525.2; DB 8;
Pred. No. 3.4e-137;
0; Mismatches 388;
                                              δ
                                                                                                      29.2%;
66.6%;
                             /gene="rpd3"
513 c
                                                                                                                                  Conservative
AYHKP*
               1999
                                                                                                                     Similarity
                                            561 a
                                                                                                                                  822;
                 polyA_site
                                                                                                       Query Match
                                                                                                                    Best Local
Matches 82
                                            BASE COUNT
                                                                                                                                                                                                                            183
                                                                                                                                                                                                                                                                                       243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 903
                                                          ORIGIN
                                                                                                                                                                                           qq
                                                                                                                                                                 ò
                                                                                                                                                                                                                          ô
                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

Sat Mar

TTCAACGTTCCATTGTTGCT Tigctggtgttatgagactgc	Best Local Similarity 65.9%; Pred. No. 1.1e-136; Matches 777; Conservative 0; Mismatches 396; Indels 6; Gaps 1; Oy 137 geggcatctctcgccgtcgggacccgacggacgtaagcgggggggg	Db 212 ACCTGAGGTGGGCAATACTACTACTACTACTACTACTACTACTACTACTACT

```
Arabidopsis thaliana
Bukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1216
                                                                                                                                                                                                                                                                                                                                                                                1036
                                                                                                                                                                                                                                                                                                                                                                                                                                                1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1217 acacgeceaaagatatggagaggataaggaacacgttgetggaacaactttegggaetaa 1276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1226 ATTCTCGTCAGATGCTTGAAGAGATTCGCAATGACCTTCTCCACAATCTCTCTTAAGCTTC 1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AF195547 1807 bp mRNA PLN 01-NOV-2000 Arabidopsis thaliana putative histone deacetylase (RPD3A) mRNA, complete cds. AF195547 GI:11066138
          505
                                                                        736
                                                                                                                                                                                 745
                                                                                                                                                                                                       196
                                                                                                                                                                                                                           805
                                                                                                                                                                                                                                                 856
                                                                                                                                                                                                                                                                     865
                                                                                                                                                                                                                                                                                           916
                                                                                                                                                                                                                                                                                                               925
                                                                                                                                                                                                                                                                                                                                      916
                                                                                                                                                                                                                                                                                          1037 ctctcatggtgttgggtggtgaagggtatactattcgaaatgttgcccgttgctggtgttt
                                                                                                                                                                                                         tgactgtttctttccacaaatttggggactttttcccaggaactggtcacataagagatg
                                                                                                                                                                                                                   686 ATATTGATATCCACCACGGGGATGGAGTGGAGGAGGCATTTTATGCTACTGACAGGGTTA
                                                                                                                                                                                                                                                 ttggogctgaaaaagggaaatactatgctctaaatgttccactaaacgatggtatggacg
                                                                                                                                                                                                                                                                     806 TAGGTTATGGTAGCGGAAAGTACTATTCTCTCAATGTACCACTGGATGATGGAATCGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ttgagtatttcggcccagattatacgcttcatgtcgacccaagtcctatggagaatttaa
coggaggttctattggtgctgccgtcaaattaaacagacaggacgctgatatcgctatca
                                                                                                                                                              atattgatgtccaccatggagatggagtggaagaagcgttttacaccactgatagagtta
                                                    506 CTGGAGGATCTGTTGGTGGCTCTGTCAAGCTTAACCACGGCCTCTGCGATATTGCCATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    thale cress.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1157
                                                                                                                                                                                                       737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                              497
                                                                                                                                                              677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AF195547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                           òγ
                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                               õ
                                                    g
                                                                         ò
                                                                                            qq
                                                                                                                  ò
                                                                                                                                       Dp
                                                                                                                                                            ò
                                                                                                                                                                                Ω
                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                  õ
```

```
/translation-*MDTGGNSLASGPDGVKRKVCYFYDPEVGNYYYGGGHPMKPHRIR
MTHALLAHYGLLQHMQVLKPFPARERDLCRFHADDYVSFLRSITPETQQDQIRQLKRF
NVGEDCPVFDGLYSFCQTYAGGSVGSVKLNHGLCDIAINWAGGLHHAKKCEASGFCY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VNDIVLAILELLKQHERVLYVDIDIHHGDGVEEAFYATDRWITVSTHRRGNYFGETGH

VDDIGYGSGKYYSLNYPLDDGIDDESYHLLKFD IMGKWEI FRERAGAVLGCGADSLSG

DRLGGFDLSIKGHAEVLGCGGGGYTIRNVARCWCYETGVALGVEVED

DRLGFPLYEYFGPDYTLHVAPSNMENNINSRQMLEEITNNALLHNLSKLQHAPSYPEYER

PPDTETPEVDEDQEGGDKTRWDPDSDMIVDDDRRYIFSRVRRAVEPOTRDKGIM

ERGRGCEVVDDESGGTKYTOVPVQVBEGGYNKMEEGGTNKGGAEQAFPRT*

386 C 386 C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
                                                                                          2 (bases 1 to 1807)
Wu,K., Tian,L., Malik,K., Brown,D. and Miki,B.
Direct Submission
Submitted (18-007-1999) Eastern Cereal and Oilseed Research Centre
Agriculture and Agri-Food Canada, Ottawa, Ontario KIA 006, Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     geggeatetetetgeegteggaecegaeggaegtaageggeggegateagttaettetaeg 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
1 (bases 1 to 1807)
Wu,K., Malik,K., Tian,L., Brown,D. and Miki,B.
Functional analysis of RPD3 histone deacetylase homologs in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTTCCCTGCCCGGAACGTGATCTCTGCGCTTCCACGCCGACGACTATGTCTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       152 GCGCAATTCGCTGGCGTCCGGACCTGATGGTGTGAAGAGGAAAGTTTGTTATTCTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            agccgacgatcggagactactactacggtcaaggccacccgatgaagcctcaccggatcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gtatggeteatageetaateatteaetateaeeteeeegtegettagaaateagtegee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ctagectegetgaegecteegatateggeegatteeattegeeggagtatgttgaettee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tegetteegtttegeeggaatetatgggegateetteegetgeacgaaacetaaggegat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCGCAGCATTACCCCTGAAACCCAGCAAGATC-----AGATTCGCCAACTTAAGCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tcaatgtcggtgaggattgtcctgtcttcgacggactttttgatttttgccgtgcttccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCAATGTTGGTGAAGACTGTCCCGTCTTTGACGGCCTTTATTCCTTTTGCCAGACCTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCATGACCCATGCCCTCCTCGCTCACTACGGTCTCCTTCAGCATATGCAGGTTCTCAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1807;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                               /product-"putative histone deacetylase"
/protein_id-"AAG28474.1"
/db_xref-"GI:11066139"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29.1%; Score 523.4; DB 8;
65.9%; Pred. No. 1.1e-136;
iive 0; Mismatches 396;
                                                                                                                                                                                                                           /organism-"Arabidopsis thaliana"
/cultivar-"Columbia"
/db_xref-"taxon:3702"
                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                               /clone="G11C3"
1. .1807
                                                                                                                                                                                                                                                                                                                      /gene="RPD3A"
142. 1647
/gene="RPD3A"
                                                                                                                                                                                                                                                                                                                                                                               /codon_start=1
                                                         Arabidopsis thaliana
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 65.9
Matches 777; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
 REFERENCE
                     AUTHORS
                                                                           JOURNAL
                                                                                                REFERENCE
                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       437
                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         557
                                                                                                                                                                                        FEATURES
                                      TITLE
                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Бb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

```
tcaacttatcagtcaagggtcacgctgattgccttcggttcttaagatcttacaacgttc 1036
                                                                                                                                                                                                                                                                                                                                                                                                                       1097 atgagactgcagttgctgttggagtagagccggacaacaaactcccttacaatgagtatt 1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1157 ttgagtatttcggcccagattatacgcttcatgtcgacccaagtcctatggagaatttaa 1216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acacgcccaaagatatggagaggataaggaacacgttgctggaacaactttcgggactaa 1276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1226 ATTCTCGTCAGATGCTTGAAGAGATTCGCAATGACCTTCTCCACAATCTCTCTAAGCTTC 1285
617 acgacatcgtgctagggattctggagttgctcaagatgtttaagcgggttctctacatag 676
                                                                                                                                                                                                                                                                                                                      985
                746 TGACTGTCTCGTTTCATAAATTTGGTGATTACTTTCCCGGTACAGGTCACATTCAGGATA
                                                                                                                                                                                                                                                                                                                                                              atattgatgtccaccatggagatggagtggaagaagcgttttacaccactgatagagtta
                                                                                                                737 tgactgittetticcacaaaittggggaettitteceaggaaetggieacataagagatg
                                                                                                                                                                       797 ttggcgctgaaaaagggaaatactatgctctaaatgttccactaaacgatggtatggacg
                                                                                                                                                                                        atgaaagttteegeagettgtttagaeetettateeagaaggttatggaagtgtateage
                                                                                                                                                                                                                                                  cagaggcagttgttcttcagtgtggtgctgactccttaagtggtgatcggttgggttgct
                                                                                                                                                                                                                                                                                                       ctctcatggtgttggggtggtgaagggtatactattcgaaatgttgcccgttgctggtgtt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1277 tacacgeacetagegtecagttteageacaceaceag 1315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1286 AGCATGCTCCAAGTGTACCATTTCAGGAAAGACCACCTG 1324
                                                                                                                                                                                                                                                                                                                   926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1217
                                                       677
                                                                                                                                                                                                    908
                                                                                                                                                                                                                                857
                                                                                                                                                                                                                                                             998
                                                                                                                                                                                                                                                                                         917
                                                                                                                                                                                                                                                                                                                                                                                                       1037
                         g
                                                        ò
                                                                                  g
                                                                                                              ò
                                                                                                                                           a
                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                         ò
                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                         ô
                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
```

Arabidopsis thaliana Rukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnollophyta; eudicotyledons; core eudicots; Rosidae; eurosids II: Brassicales; Brassicaceae; Arabidopsis. 2 (bases 1 to 1808)
Tomihama,T., Shoji,K., Hanyu,H. and Okano,T.
Direct Submission
Submitted (16-JUL-1997) Department of Biology, Central Research
Institute of Electric Power Industry, 1646, Abiko, Chiba 270-11, 12-AUG-1997 complete cds 1 (bases 1 to 1808) Fomihama,T., Shoji,K., Hanyu,H. and Okano,T. Characterization of a histone deacetylase (EST G11C3T7) in AF014824 1808 bp mRNA Arabidopsis thaliana histone deacetylase mRNA, AF014824.1 GI:2318130 Arabidopsis thaliana thale cress Unpublished AF014824 DEFINITION ORGANISM AUTHORS TITLE TITLE JOURNAL ACCESSION VERSION KEYWORDS REFERENCE JOURNAL REFERENCE AUTHORS AF014824 SOURCE

RESULT

Location/Qualifiers

Japan

FEATURES

```
143. ..u.*.
/codon_start=1
/product="histone deacetylase"
/protein_id="AaB66486.1"
/protein_id="AaB66486.1"
/protein_id="AaB66486.1"
/protein_id="AaB66486.1"
/translation="MDTGGNSLASGPDGVRRKVCYFYDPEVGNYYGGGHPMKPHRIR
MTHALLAHYGLLOHMOVLKPFPARERDLCFFHADDYVSFLRSITPETQOD;IRGLKRF
MYGENCPYPOGLYSFCQTYAGGSVGGSVKLNHGLCDIA.NWAGSLHHARKCEAGSFCY
VNDTVLALLELLKQHERVLYVDIDIHGDGVESFYATDRVMTVSFRFRGDYFPGTGH
IQDIGTGSGKYYSLNPVDLOGLDDESYHLLLKRGINGKYNEIFRFGDYFPGTGH
IQDIGTGSGKYYSLTWPLDDGLDDESYHLLLGGGGYTIRNVARCWCYETGVALGVVED
KMPEHRYFYETGGPDYTLHVAPSNMENRNSRQMLEEIRNNLLHUSKLQHARSVPFOER
PPDTETPEVDEDGEDGDKRWDPDSDMOVDDDRRFIPSRVKREAVEPDTKDKDGLKGIM
ERGKGCEVEVDESGSTRYTGVAPVGVEBASVRMEEEGTNKGGAEQAFPRT"

187 c 464 g 485 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                atattgatgtccaccatggagatggagtggaagaggttttacaccactgatagagtta 736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   687 ATAITGAIAICCACCACGGGGAIGGAGIGGAGGAGGCAITITAIGCIACTGACAGGGITA 746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tgactgittctttccacaaatttggggactttttcccaggaactggtcacataagagatg 796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGACTGTCTCGTTTCATAAATTTGGTGATTACTTTCCCGGTACAGGTCACATTCAGGATA 806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               153 GCGCCAATTCGCTGGCGTCCGGACCTGATGGTGAAGAGGAAAGTTTGTTATTTCTATG 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             377 tegetteegtttegeeggaatetatgggegateetteegetgeacgaaaeetaaggegat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        437 tcaatgtcggtgaggattgtcctgtcttcgacggactttttgatttttgccgtgcttccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             attggggcggtgggcttcaccatgctaagaaaagcgaggcttctgggttttgctatgtaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acgacatcgtgctagggattctggagttgctcaagatgtttaagcgggttctctacatag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGATATCGTCTTAGCTATCCTAGAGCTCCTTAAGCAGCATGAGCGTGTTCTTTATGTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agecgaegateggagaetaetaetaeggteaaggeeaeeegatgaageeteaeeggatee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     213 ACCCTGAGGTCGCCAATTACTACTATGGCCAAGGTCATCCCATGAAGCCCCATCGCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gtatggctcatagcctaatcattcactatcacctccaccgtcgcttagaaatcagtcgcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       317 ctagectegetgaegeeteegatateggeegatteeattegeeggagtatgttgaettee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCTTCCCTGCCCGCGAACGTGATCTCTGCCGCTTCCACGCCGACGACTATGTCTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   393 TCCGCAGCATTACCCCTGAAACCCAGCAAGATC-----AGATTCGCCAACTTAAGCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGAGGATCTGTTGGTGCTCTGTCAAGCTTAACCACGGCCTCTGCGATATTGCCATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCATGACCCATGCCCTCCTCGCTCACTACGGTCTCCTTCAGCATATGCAGGTTCTCAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
9
                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 1808;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                               Score 523.4; DB 8;
Pred. No. 1.1e-136;
0; Mismatches 396;
               /organism="Arabidopsis thaliana"
/strain="Columbia"
/db_xref="taxon:3702"
                                                                      /note="EST clone No.GllC3T7"
                                                                                                                                                                                                                                                                                                                                                                                                                               29.1%;
ilarity 65.9%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                        472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 777;
                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
source
                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             747
                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

```
ALKRENVGEDCPVFDGLYSFCQTYAGGSVGGAVKLNHGHDIAINWAGGLHHAKKCEAS
GRCYWNIYALALLELLKYHOVLYVDIJHGROOVEBEAFTTDRWHYVSFHKFDDYFP
GRGDIRDIGYSEGKYYKCLNVPLDDGIDDDSTRFPIISKWHEWARPGAVLOCGAD
SLSGDRIGGFNLSGKGHAECVKFWRSFNVPLLLLGGGGYAIRNVARCWCYETGVALGH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /translation="MDASAGGGGNSLPTAGADGAKRRVCHFYDAEVGNYYCGQGHPMKPHRITAHTHALLAHYGLLDQMQVLKPHPARDRDLCRFHADDYVAFLRSVTPETQQDQIR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Oryza sativa
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; Liliopsida; Poales; Poaceae; Bhrhartoideae; Oryzeae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Song, F. and Goodman, R.M.
Molecular characterization of a rice histone deacetylase gene OsHDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 (bases I to 1579)
Song, F. and Goodman, R.M.
Direct Submission
Submitted (30-DEC-2000) Department of Plant Pathology, University of Wisconsin-Madison, 1630 Linden Drive, Madison, WI 5706, USA
Location/Qualifiers
                                                                                                                                                                                                                     1037 ctctcatggtgtttgggtggtgaagggtatactattcgaaatgttgcccgttgctggtgtt 1096
                                                                                                                                                                                                                                                                                                                                                                                                                                      1157 ttgagtatttcggcccagattatacgcttcatgtcgacccaagtcctatggagaatttaa 1216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1217 acacgeceaaagatatggagagataaggaacacgttgetggaacaactttegggaetaa 1276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1227 ATTCTCGTCAGATGCTTGAAGAGATTCGCAATGACCTTCTCCCACAATCTCTTAAGCTTC 1286
                                                                                                                    916
807 TAGGTTATGGTAGCGGAAAGTACTATTCTCTCAATGTACCACTGGATGAATGGAATCGATG 866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-FEB-2001
                                                                                                                    atgaaagtttccgcagcttgtttagacctcttatccagaaggttatggaagtgtatcagc
                                                                                                                                                                                                  tcaacttatcagtcaagggtcacgctgattgccttcggttcttaaggatcttacaacgttc
                                                                                                                                                                                                                                                                                                                                                          atgagactgcagttgctgttggagtagagccggacaacaaactcccttacaatgagtatt
                                                                            ATGAGAGCTATCATCTGTTATTCAAGCCCATCATGGGGAAAGTTATGGAAATTTTCCGAC
                                                                                                                                                                                                                                                                                                                    1047 CCCTACTGCTCTTGGGTGGTGGTTACACTATCCGCAATGTTGCCGGTTGCTGGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             deacetylase HD1 mRNA, complete cds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product="histone deacetylase HD1"
/protein_id="AAK01712.1"
/db_xref="G1:12698880"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1277 tacacgcacctagcgtccagtttcagcacaccaccag 1315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Oryza sativa"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /cultivar="Yuanfengzao"
/db_xref="taxon:4530"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /dev_stage="seedling"
13. .1494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AF332875.1 GI:12698879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Oryza sativa histonė
AF332875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1579 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 1579)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Oryza sativa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AF332875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Oryza
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                            1097
                                       857
                                                                            867
                                                                                                                                                                                                414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AF332875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                       ò
                                                                            g
                                                                                                                    ò
                                                                                                                                                       g
                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
ELTDKMPPNEYFEYFGPEYSLFVAASNMENRNTNKQLEEIKCNILDNLSKLOHAPSVO
FEER PETKLPERDEROEDPOBRHDPDSDMVLDDHKPMGHSARSLIRNIEVKREITES
EAKDOHGKRLTTEKGPEPMADDPGSKQAPVSRRLLYPSANP"
1 425 c 420 g 335 t
                                                                                                                                                                           2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            988 gicaagggicacgcigatigcciicggitciiaagaictiacaacgiiccictcaiggig 1047
                                                                                                                                                                                                          148 ctgccgtcgggacccgacggacgtaagcggcgagtcagttacttctacgagccgacgatc 207
                                                                                                                                                                                                                                  CCGACGCCGGGGCCCAACGGCCCAACGCGCGGTGTGCCACTTCTACGACGCGGAGGGTG 108
                                                                                                                                                                                                                                                                                                       agectaateatteaetateaeeteeaeegtegettagaaateagtegeeetageeteget 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tegeceggaatetatgggegateetteegetgeaegaaaeetaaggegatteaatgteggt 447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Caccatggagatggagtggaagaagcgttttacaccactgatagagttatgactgttct 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ctagggattctggagttgctcaagatgtttaagcgggttctctacatagatattgatgtc 687
                                                                                                                                                                                                                                                                                                                                                                                             169 GCGCTGCTCGCCCACTACGGCCTCCTCGACCAGATGCAGGTGCTCAAGCCCCACCCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                           508 attggtgctgccgtcaaattaaacagacaggacgctgatatcgctatcaattggggcggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGGGGGGCGCGTCAAGCTCAAC---CACGGCCACGACATGGCATGAACTGGGCGGG
                                                                                                                                                                                                                                                                                     ggagactactactacggtcaaggccacccgatgaagcctcaccggatccgtatggctcat
                                                                                                                                                                                                                                                                                                                                                                                                                                       gacgcctccgatatcggccgattccattcgccggagtatgttgacttcctcgcttccgtt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gaggattgtcctgtcttcgacggactttttgatttttgccgtgcttccgccggaggttct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGCCGGAGACCCAGCCAGACCAGATC----CGGGCGCTCAAGCCCTTCAACGTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          760 CAGTCCATCTTCAAGCCGATCATCAGCAAAGTCATGGAGATGTATCGTCCTGGTGCAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         580 CACCATGGGGATGGTGTGGAGGAGGCGTTTTACACGACGGACAGGGTGATGACGGTCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ttccacaaatttggggactttttcccaggaactggtcacataagagatgttggcgctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            808 aaagggaaatactatgctctaaatgttccactaaacgatggtatggacgatgaagtttc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      868 cgcagcttgtttagacctcttatccagaaggttatggaagtgtatcagccagaggcagtt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       820 GIGCTICAGIGCGCCCIGATICGTIGICCGCCGATAGGIIGGGCTGTITCAAICTCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gggcttcaccatgctaagaaaagcgaggcttctgggttttgctatgtaaacgacatcgtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   700 GAGGGGAAGTATTACTGCCTGAATGTCCCGCTGGATGATGGGATTGATGATGACACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9:
                                                                                                                                     Length 1579;
                                                                                                                                                                           Indels
                                                                                                                                 Score 503.8; DB 8;
Pred. No. 3.6e-131;
0; Mismatches 417;
                                                                                                                                 28.0%;
64.8%;
                                                                                                                                                                         Conservative
                                                                                                                                                     Similarity
                                                           đ
                                                                                                                                                                     Matches 783;
                                                                                                                                 Query Match
                                                                                                                                                       Local
                                                       BASE COUNT
                                                                                                                                                                                                                                                                                                                       109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     748
                                                                                                                                                                                                                                                63
                                                                                                                                                                                                                                                                                     208
                                                                                                                                                                                                                                                                                                                                                            568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          688
                                                                                                                                                                                                          à
                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
```

g ò

õ a ò 9 ò a g

ò

a

ò

a

ò

ò

ò

ò

ò 8 ò a ò a ò g

```
NVGEDCPVFDGLTSFCQTYAGGSVGGAVKLNHGLCDIAINWAGGLHHAKKSERSGFCY
VNDIVLAILELLKVHERVLYVDIDIHHGDGVEEAFYTTERVMTVSFHKFGDYFPGTET
FVYIGYGKGKYYSLNVPLDDGIDDESYQSLFKPIMGKVMEIFKPGAVVLQCGADSLSG
DRLGCFNLSIKGHAECVKYMISFNVPLLLVGGGGYTIRYVARCWCYFTGVALGFELDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /translation~"MDTGGNSLPSGPDGVKRKVSYFYDPEVGNYYGQGHPMKPHRIR
MTHALLAHYGLLQHMQVLKPVPARDRDLCRFHADDYVSFLRGITPEMQGDQLRQLKRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KIPQHEYYEYFGPDYTLHVAPSNMENKNSRPMLDDIRGKLLEYLSSLOHAPSYOFOER
PPEAEIPEEDEDQHDPEGRWDPDSDMEVDDRSISIRSRVKREIMEPDLKDRDDVKDAV
DHPRDMDVSYGAGNTSVKAPTTSSDQPEGCVEMEQDNSNRPPDGGPNMNS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota, Viridiplantae; Streptophyta, Embryophyta, Tracheophyta, Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Caryophyllidae, Caryophyllidae, Caryophyllidae, Caryophyllidaes, Aizoaceae; Mesembryanthemum. 1 (bases 1 to 1839) Scharte, J. and Baur, B.
                                                                                                                                                                    1287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mesembryanthemum crystallinum histone deacetylase (Hdeacl) mRNA,
                                                                                                                                                                                                                                                                                                                               1288 agcgtccagtttcagcacaccaccagtcaatcgagttttggacgagccggaagatgac 1347
                                              1108 gttgctgttggagtagagccggacaacaactcccttacaatgagtattttgagtatttc 1167
                                                                                                                                                                                                                                                                                                                                                                           1180 AGTGTCCAATTTGAAGAGCGAATTCCTGAACAAGTTACCTGAGCCAGATGAAGATCAA 1239
940 CTTGGTGGTGGTGGATATGCCATAAGAAATGTTGCACGCTGTTGGTGCTATGAGACAGGA 999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Molecular cloning of histone deacetylase from Mesembryanthemum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
Submitted (27-JUN-2000) Institut fuer Botanik, Universitaet
Muenster, Schlossgarten 3, Muenster 48143, Germany
                                                                         ggcccagattatacgcttcatgtcgacccaagtcctatggagaatttaaacacgcccaaa
                                                                                                                                                                                                                                         gatatggagaggataaggaacacgttgctggaacaactttcgggactaatacacgcacct
                                                                                                                                                                                                                                                                                   1120 CAATTGGAGGAAATAAAATGCAACATTCTGGACAATCTTTCAAAACTTCAACATGCTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism-"Mesembryanthemum crystallinum"
/db_xref-"taxon:3544"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product-"histone deacetylase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /protein_id="AAF82385.1"
/db_xref="G1:9022439"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mesembryanthemum crystallinum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /tissue_type="leaf"
1. .1839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          174. .1676
/gene="Hdeac1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene-"Hdeac1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /codon_start-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 (bases 1 to 1839)
Scharte, J. and Baur, B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AF282858.1 GI:9022438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1839 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       383 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     common ice plant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      complete cds.
AF282858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           crystallinum
                                                                                                                                                                                                                                                                                                                                                                                                                          1348 atggagaca 1356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1240 GAGGATCCA 1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AF282858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                    1228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                         1168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AF282858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
                                              ò
                                                                                        g
                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
```

```
RESULT 12
DMHISSEAC
                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5'UTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                1262
                                                                                                                                   1322
                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
MEDLINE
                            1202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene
                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                        g
                            õ
                                                     8
                                                                                ò
                                                                                                                                   ò
                 ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1003 ACAGGTTGGGCTGTTTTAACCTCTCCATCAAGGGTCATGCAGAGTGTGTCAAATATATGA 1062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cccgttgctggtgttatgagactgcagttgctgttggagtagagccggacaacaactcc 1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCGTTGCTGGTGTTATGAGACTGGGGTTGCCCTTGGGTTTGAGCTTGATGATAAGATCC 1182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                                 169 IGGIGAIGGAIACCGGAGGCAAIICACIICCAICIGGACCAGAIGGGGIAAAGCGIAAAG 228
                                                                                           182 tcagttacttctacgagccgacgatcggagactactactacggtcaaggccacccgatga 241
                                                                                                                                                             gaaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacggactttttgatt 481
                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                         583 GIGACATIGCAATIAACIGGGCAGGIGGITIGCAICATGCAAAAAAAAGIGAGGCGICGG 642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            643 GTTTCTGCTATGTGAATGATATTGTATTGGCAATTTTGGAACTTCTCAAAGTGCATGAGC 702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          722 ccactgatagagttatgactgtttctttccacaaatttggggactttttcccaggaactg 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                842 acgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggtta 901
                                          229 TCTCGTACTTTTATGATCCAGAAGTTGGAAACTATTACTATGGGCAAGGTCACCCTATGA 288
                                                                                                                                                242 agceteaceggateegtatggeteatageetaateatteaetateaeeteeeegteget 301
                                                                                                                                                                                                    tagaaatcagtcgccctagcctcgctgacgcctccgatatcggccgattccattcgccgg 361
                                                                                                                                                                                                                                                        agtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttccgctgcac 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ggttttgctatgtaaacgacatcgtgctagggattctggagttgctcaagatgtttaagc 661
                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        823 AGACATTCGTGTATATGGATATGGAAAGGGAAAGTATTATTCTCTTAATGTGCCCCTAG
                                                                                                                                                                                                                                                                                                                                                                                                                  ctgatatcgctatcaattggggcggtgggcttcaccatgctaagaaaagcgaggcttctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             782 gtcacataagagatgttggcgctgaaaagggaaatactatgctctaaatgttccactaa
                                                                                                                                                                                                                                                                          ATTACGTGTCCTTCCTCAGGGGAATTACACCAGAAATGCAACAGGATCAGT-----TAA
                                                                                                                                                                                                                                                                                                                                                             349 TGCAAGTCCTGAAGCCAGTCCCTGCAAGAGATAGAGACCTTTGCAGGTTCCACGCTGATG
                                                                                                                                                                                                                                                                                                                       463 GGCAATTGAAGAGGTTTAATGTTGGTGAAGATTGCCCTGTATTTGATGGCCTTTACTCCT
                9
                Indels
               0; Mismatches 448;
 Pred. No. 5.2e-129;
  63.28;
               781; Conservative
Best Local Similarity
Matches 781; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1082
                                                                                                                                                                                                 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1142
                                                                                                                                                                                                                                                     362
                                                                                                                                                                                                                                                                               409
                                                                                                                                                                                                                                                                                                         422
                                                                                                                                                                                                                                                                                                                                                             482
                                                                                                                                                                                                                                                                                                                                                                                                                542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              οχ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                   qq
                                                                                                                                                                       qq
                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                        οy
                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                         ò
                                                                g
                                                                                          ò
                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

```
/db_xref="FLYBASE:FBgn0015805"
/db_xref="FLYBASE:FBgn0015805[FBa10045042]"
/db_xref="SWISS-PROT:094517"
/db_xref="SWISS-PROT:094517"
/translation="MQSHSKKRVCYYYDSDIGNYYYGGGHPMKPHRIEWTHNLLLNYG
LYRKMDIRPHKATABEWTKFHCDEYVRFLRSIRPDNMSEYNKOMQRFNYGEDCEVFDG
LYRKMDIRPHKATABEWTKFHCDEYVRFLRSIRPDNMSEYNKOMQRFNYGEDCEVFDG
LYRKGGSAGGSVAAAVKLNKQASEICINWGGGLHHAKKSEASGFCYVNDIVLGILEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LKYHORULY IDIDVHHGDGVEEAFYTTDRVMTVSFHKYGEYFPGTGDLRDIGAGKGKY
YAVNIPLRDGMDDDAYESIFVPIISKVMETFQPAAVVLQCGADSLTGDRLGCFNLTVK
GHGKCVEFVKKYNLPFLMVGGGGYTIRKVSRCWTYETSVALAVEIANELPYNDYFEYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GPDFKLHISPSNMTNQNTSEYLEKIKNRLFENLRMLPHAPGVQIQAIPEDAINDESDD
EDKVDKDDRLPQSDKDKRIVPENEYSDSEDEGEGGRRDNRSYKGORKRPRLDKDTNSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (06-NOV-1996) P. Spierer, University of Geneva, Department of Zoology and Animal Biology, 30, Quai Ernest-Ansermet, CH-1211 Geneva 4, SWITZERLAND
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KASSETSSEIKDEKEKGDGADGEESTASNTNSNNNSNNKSDNDAGATANAGSGSGSG
1183 CTCAACATGAATACTATGAGTATTTCGGTCCTGACTATACTCTCCACGTTGCTCCGAGTA 1242
                                                                                                                                                                                              aactttegggactaatacaegeacetagegtecagtteageacacaceaceagteaate 1321
                                                                                                                                                                                                                                                             1303 ACCTCTCAAGTCTACAGCATGCACCAAGTGTGCAATTCCAAGAACGTCCACCTGAAGCTG 1362
                                                                  Eukaryota, Metazoa, Arthropoda, Tracheata, Hexapoda, Insecta, Pteryota, Neoptera, Endopterygota, Diptera, Brachycera: Muscomorpha: Ephydraidea, Drosophilae, Drosophila.

1 (bases 1 to 2172)
De Rubertis,F., Kadosh,D., Henchoz,S., Pauli,D., Reuter,G., Struhl,K. and Spierer,P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-JAN-1997
                                                                                                                              1243 ATATGGAGAACAAGAACTCCCGACCAATGCTGGATGATATAGAGGAAAGCTTCTTGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note-"larval salivary gland polytene chromosome"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /dev_stage="embryonic"
/clone_lib="cDNA library (Brown and Kafatos)"
/map="648C"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DMHISSEAC 2172 bp mRNA INV 06.
D.melanogaster mRNA for putative histone deacetylase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Drosophila melanogaster"
/db_xref="taxon:7227"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /product-"histone deacetylase"
/protein_id="CAA70455.1"
/db_xref="G1:1666637"
                                                                                                                                                                                                                                                                                                                             gagttttggacgagccggaagatgacatggagaca 1356
                                                                                                                                                                                                                                                                                                                                                                                         1363 AGATTCCAGAGGAAGATGAAGATCAGCACGATCCA 1397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drosophila and yeast
Nature 384 (6609), 589-591 (1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Y09258.1 GI:1666636
histone deacetylase; RPD3 gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="putative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /chromosome="3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="RPD3"
224, 17°
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGAKGAKENNI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      224. 1786
/gene="RPD3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 2172)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1. .2172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      fruit fly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Spierer, P.
Direct Sub
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97113416
```

459

558 g

547 C

```
ORIGIN
```

```
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccttaagtggtgatcggttggttgcttcaacttatcagtcaagggtcacgctgattgcc 1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1010 ttcggttcttaagatcttacaacgttcctctcatggtgttgggtggtgaagggtatacta 1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGAGTICGTGAAGAAATATAACCIGCCATICCIGAIGGICGGCGGIGGIGGITATACCA 1127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         acaacaaactcccttacaatgagtattttgagtatttcggcccagattatacgcttcatg 1189
                                                gtaagcggcgagtcagttacttctacgagccgacgatcggagactactactacggtcaag 229
                                                                       GCAAAAAGCGCGTTTGTTACTACTACGACAGCGACATTGGCAACTACTACTATGGCCAGG 296
                                                                                                              tecattegeeggagtatgttgaetteetegetteegtttegeeggaatetatgggegate 409
                                                                                                                                                                                                                                                       469
                                                                                                                                                                                                                                                                             527
                                                                                                                                                                                                                                                                                                       529
                                                                                                                                                                                                                                                                                                                                                       589
                                                                                                                                                                                                                                                                                                                                                                              647
                                                                                                                                                                                                                                                                                                                                                                                                        649
                                                                                                                                                                                                                                                                                                                                                                                                                                                        709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           949
                                                                                                                                                                                                                                                                                                                                                                                                                              707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 887
                            Gaps
                                                                                                 gocaccogatgaagcotcaccggatccgtatggctcatagcctaatcattcactatcacc
                                                                                                                                                                                                                                                                                                                                                  530 acagacaggacgctgatatcgctatcaattggggcggtgggcttcaccatgctaagaaaa
                                                                                                                                                tecacegtegettagaaateagtegeettageetegetgaegeetecgatateggeegat
                                                                                                                                                                 cttccgctgcacgaaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacg
                                                                                                                                                                                                                                                                  474 ACAAC-----AAGCAGATGCAGCGTTTCAATGTCGGCGAAGATTGTCCCGTCTTTGATG
                                                                                                                                                                                                                                                                                                 gactttttgattttgccgtgcttccgccggaggttctattggtgctgccgtcaaattaa
                                                                                                                                                                                                                                                                                                                                                                 590 gegaggettetggttttgetatgtaaaegacategtgetagggattetggagttgetea
                                                                                                                                                                                                                                                                                                                                                                                                                 teceaggaactggteacataagagatgttggegetgaaaaagggaaataetatgetetaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     atgitccactaaacgatggtatggacgatgaaagtttccgcagcttgtttagacctctta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   414 TCCACTGCGACGAGGAGTACGTCGGTTCTTGCGATCCATTCGGCCGGACAACATGTCGGAGT
                                                                                                                                                                                                                                                                                                                         528 GACTATACGAGTTTTGCCAACTCTCCGCCGGAGGATCCGTAGCTGCGGCCGTAAAACTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                  650 agatgtttaagcgggttctctacatagatattgatgtccaccatggagatggaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCCGGCCACTGGCGATCTGCGAGACATTGGCGCCGGCAAGGGGAAATATTATGCGGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tocagaaggttatggaagtgtatcagccagaggcagttgttcttcagtgtgtgctgact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1128 TTCGTAAAGTATCCCGCTGTTGGACCTATGAGACCTCCGTGGCACTGGCCGTGGAGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1070 ttcgaaatgttgcccgttgctggtgttatgagactgcagttgctgttggagtagagccgg
                            6
  Length 2172;
                          Indels
                        0; Mismatches 395;
              Pred. No. 2,5e-119;
  Score 462;
25.7%;
64.3%;
                        Conservative
           Similarity
                      Matches 728;
 Query Match
              Best Local
                                                170
                                                                       237
                                                                                                230
                                                                                                                                                                       357
                                                                                                                                                                                                 350
                                                                                                                                                                                                                                                 410
                                                                                                                                                                                                                                                                                                 470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1130
                                                ò
                                                                      9
                                                                                              ò
                                                                                                                      a
                                                                                                                                                                     g
                                                                                                                                                                                                                       a
                                                                                                                                                ò
                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

```
TTABLE ALTON—"MYSOGGCKKKVCYYYDCDIGNYYYGOGHPMKPHRIRWTHNLLL
NYGLYRKMETYRPHKATAEENTKYHSDEYIKFLKSIRPDNMSEYSKOMORFNVGEDCP
VPGLFEECOLSTGGSVAGARVLINGOCDMANWAGGLHHAKKSEAGGFCYNWLIVLA
ILELLKYHORYLLY DID IHHGDGVEEAFYTTDRVMTVSEVSWVNNFGTGDLKDIGAG
KGKYYAVNFPMRDGIDDESYGOIFKPIISKVMEMYQPSAVVLOGGABSLSGBRLGCFN
ITTVKGHAKCVEVWFRFNLLALGGGGTTIRNVARVGWTYETRAVALDCEIPNELPYNDY
FEYFGPDFKLHISPNMTNONTPEYMKRIKORLFENLRMLPHAPGVOMGAIPEDAVHE
DSGDEDGEDPDRRISTRASDKRIACDEFFSDSEDEGGGGRRNVADHKKGAKKRRIEED
KKETEDKKADVKEEDKSKNDNSGEYTDTKGAKSEQLSNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ä
                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
Phasianinae; Gallus.
                                                                       1248 TTAGTCCCAGCAATATGACAAATCAGAATACATCCGAGTACCTGGAGAAGATCAAGAACC 1307
1188 CCAACGAACTGCCCTACAACGATTACTTCGAGTACTTTGGGCCCGGATTTTAAGCTGCACA 1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission
Submitted (23-DBC-1997) Biochemistry, Miyazaki Medical Collage,
Kiyotake Kihara 5200, Miyazaki 889-16, Japan
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           137 geggeatetetetgeegtegggaeeegaeggaegtaageggeggegagteagttaettetaeg 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGGCGCCCTATGGCGTACAGTCAGGGCGGCGGCAAGAAGAAAGTCTGCTACTACG 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gtatggctcatagcctaatcattcactatcacctccaccgtcgcttagaaatcagtcgcc 316
                                                                                                                                                                                                                                                               18-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Takami,Y., Kikuchi,H. and Nakayama,T.
Chicken histone deacetylase-2 controls the amount of the IgM
H-chain at the steps of both transcription of its gene and
alternative processing of its pre-mRNA in the DT40 cell line
J Biol. Chem. 274 (34), 23977-23990 (1999)
                                  1190 tegacecaagteetatggagaatttaaacaegeecaaagatatggagaggataaggaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agccgacgatcggagactactactacggtcaaggccacccgatgaagcctcaccggatcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6;
                                                                                                               Gallus gallus histone deacetylase-2 mRNA, complete cds.
AF039752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1878;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 459.2; DB 5;
Pred. No. 1.5e-118;
0; Mismatches 489;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="histone deacetylase-2"
/protein_id="AAB96924.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. 1878
/organism="Gallus gallus"
/db_xref="taxon:9031"
71. 1537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /db_xref-"G1:2791686"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 440 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /codon_start-1
                                                                                                                                                                                                                                                                                                                  AF039752.1 GI:2791685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25.5%;
61.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note-"HD-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 (bases 1 to 1878)
Takami, Y.
                                                                                                                                                                                                                                                          1878 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 1878)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 61.1
Matches 781; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   333
                                                                                                                                                                                                                                                                                                                                                                              Gallus gallus
                                                                                                                                                                                                                                                          AF039752
                                                                                                                                                                                                                                                                                                                                                         chicken.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     197
                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                   RESULT 1
AF039752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                        LOCUS
                                     à
                                                                            qq
                                                                                                                   οχ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

```
1096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1251 GTGGAGATGAGGATGGAGAAGATCCAGACAAACGCATTTCTATTCGAGCATCTGATAAGC 1310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      977 tcaacttatcagtcaagggtcacgctgattgccttcggttcttaaggatcttacaacgttc 1036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1217 acacgeceaaagatatggagaggataaggaacaegttgetggaacaaetttegggaetaa 1276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1194 CTCATGCACCTGGTGTACAGATGCAGGCCATTCCTGAAG---ATGCTGTTCATGAAGATA 1250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cggaagatgacatggagacaagaccaaaaacctcgcatntggagtggaactgcgacttatg 1396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     436
                                                                                                                                                                                                                                               557 attggggggggggttcaccatgctaagaaaagcgaggcttctgggttttgctatgtaa 616
                                                                                                                                                                                                                                                                                                      919
                                                                                                                                                                                                                                                                                                                                                                                        653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               533
                                                                                                                                                                                                                                                                                                                                                            atattgatgtccaccatggagatggagtggaagaagagcgttttacaccactgatagagtta 736
                                                                                                                                                                                                                                                                                                                                                                                                                 tgactgititctitccacaaaittggggacttittcccaggaactggicacataagagatg 796
                                                                                                                                                                                                                                                                                                                                                                                                                                          TGACTGTGTCAGAGGTAAGTATGGTGAATAATTTTCCAGGCACAGGGGACCTTAGGGACA 713
                                                                                                        300 TCAGATCAATAAGGCCTGACAATATGTCTGAGTACAGC-----AAGCAGATGCAAAGAT 353
                                                                                                                                                               354 TTAATGTTGGAGAAGATTGTCCTGTATTTGATGGCCTGTTTGAGTTTTGTCAGCTGTCAA 413
180 GAATGACTCACAACTTGCTCCTAAATTATGGCTTGTACAGGAAAATGGAAATTTACCGAC 239
                                                     240 CCCACAAAGCTACTGCTGAGGAAATGACCAAGTACCATAGTGATGAATACATCAAATTTC 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         317 ctagectegetgaegecteegatateggeegatteeattegeeggagtatgttgaettee
                                                                                                                                                                                                                                                              atgagactgcagttgctgttggagtagagccggacaacaaactcccttacaatgagtatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ttgagtatttcggcccagattatacgcttcatgtcgacccaagtcctatggagaatttaa
                                                                                                                                                                                                                                                                                                                    774 ATGAGTCGTATGGACAGATATTCAAACCAATTATATGAAAAGTAATGGAGATGTACCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAGTGCTGTAGTATTACAGTGTGGAGCAGATTCATTGTCTGGTGATAGGTTGGGATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1014 ATGAAACTGCTGTTGCCTTAGATTGTGAAATTCCTAATGAATTACCATACAATGATTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tacacycacctaycytccaytttcaycacaccaccaytcaatcyayttttyyacyayc
                                                                                                                                                                                                                                                                                                       acgacatcgtgctagggattctggagttgctcaagatgtttaagcgggttctctacatag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            atgaaagtttccgcagcttgtttagacctcttatccagaaggttatggaagtgtatcagc
                                                                                                                                      tcaatgtcggtgaggattgtcctgtcttcgacggactttttgatttttgccgtgcttccg
                                                                                tegetteegtttegeeggaatetatgggegateetteegetgeacgaaacetaaggegat
                                                                                                                                                                                          1037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1277
                                                                                                                                                                                                                                                                                                    617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1097
                                                                             377
                                                                                                                                     437
                                                                                                                                                                                          464
                                                                                                                                                                                                                     414
                                                                                                                                                                                                                                                                          474
                                                                                                                                                                                                                                                                                                                                534
                                                                                                                                                                                                                                                                                                                                                           677
                                                                                                                                                                                                                                                                                                                                                                                     594
                                                                                                                                                                                                                                                                                                                                                                                                                737
                                                                                                                                                                                                                                                                                                                                                                                                                                           654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                       g
                                                                                                                                                               g
                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                   g
                                                                                                                                    ò
                                                                                                                                                                                          ò
                                                                                                                                                                                                                                               ò
                         ò
                                                                              ò
```

```
/product="putative histone deacetylase HDACL"
/protein_id="AAC23917.1"
/db_xref="G1:2583090"
/translation="MOSHSKRVCYYVDSDIGNYYYGOGHPMKPHRIRWTHNLLLNYG
LYRKMEIYRPHKATADEWITKPHSDEYVRFLRS!RPDNMSEYNKOMORRWGENCPYFD
GLYDFCQLSAGGSVAAAVKLNKQASEICINWGGGLHHAKKSEASGFCYVNDIVLGILE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LLKYHORVLYIDIDVHHGDGVEBAFYTTDRVMTVSFHKYGEYFPGTGDLRDIGAGKGK
YYANIPLENGMDDAYESIFYDIISKWHETPGAAVULGGABSLIGFBLGCFHLTV
KGHGKCVEFVKKYNIPLESIFYDIISKWHETPGAAVULGGABSLIGFBLGCFHLTV
KGHGKCVEFVKKYNIPLEPLAVVGGGGYTIRKORRCTFSVALAVEIANELPYNDYFE
YFGPDFKLHISPSNMTNONTSEYLEKIKNRLFENLRWPHAPGVOIQAIPEDAINDES
DDEDKVDRDBLLQCSNKDKRIYVENEYSDSEDEGEGGRRDNRSYKGQRKRPRLJKDTN
SNKASSETSEIKDEK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ς,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 (bases I to 2073)
Johnson, C.A., White, D., O'Neill, L.P. and Turner, B.M.
Direct Submission
Submitted (26-SEP-1997) Anatomy, Univ. of Birmingham, Birmingham
B15 27T, U.K.
                                                                                                                                                             AF026949 2073 bp mRNA INV 22-JUN-1998
Drosophila melanogaster putative histone deacetylase HDAC1 mRNA,
                                                                                                                                                                                                                                                                                                                      Drosophija melanogaster
Eukaryota; Metazoa; Arthopoda; Tracheata; Hexapoda; Insecta;
Pteryota; Metazoa; Arthopoda; Tracheata; Brachycera;
Pteryota; Neoptera; Endopteryota; Diptera; Brachycera;
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.

J (bases 1 to 2073)

Johnson, C. A., White, D., O'Neill, L.P., and Turner, B.M.
Putative histone deacetylase HDAC1 from Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           170 gtaageggegagteagttacttetacgageegateggagaetaetaetaeeggteaag 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tccattcgccggagtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatc 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gccacccgatgaagcctcaccggatccgtatggctcatagcctaatcattcactatcacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        163 GCAAAAAGCGCGTTTGTTACTACGACAGCGACATTGGCAACTACTACTATGGCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tecacegtegettagaaateagtegeettageetegetgaegeeteegatateggeegat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         283 TCTATCGAAAAATGGAAATATACCGTCCCCATAAAGCCACTGCCGATGAGATGACCAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 2073;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Drosophila melanogaster"
/db_xref="taxon:7227"
/chromosome="3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 25.5%; Score 458.6; DB 3; Best Local Similarity 64.1%; Pred. No. 2.3e-118; Matches 727; Conservative 0; Mismatches 399;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             430 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          544 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /map="3L; 64Cl-6"
150. 1718
/codon_start=1
1397 aatcagacagtgacgatga 1415
                                                                                                                                                                                                                                                     AF026949.1 GI:2583089
                                             1311 GCATTGCCTGTGATGAGGA 1329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          528 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .2073
                                                                                                                                                                                                          complete cds. AF026949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                290
                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                   AF026949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
    ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

AUTHORS

Ξ

Gaps

9

Length 1985; Indels

ب 545 302

```
ccttaagtggtgatcggttgggttgcttcaacttatcagtcaagggtcacgctgattgcc 1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CATTCGTAAAGTATCCCGCTGTTGGACCTTCGTCGTGGCACTGGCCGTGGAGA 1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGAGTTCGTGAAGAAATATAACCTGCCATTCCTGATGGTCGTCGTGGTGGTGGTTATA 1056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cggacaacaactcccttacaatgagtattttgagtatttcggcccagattatacgcttc 1186
                                      769
                                                                                                                                                                                                                             756
577 CGGAAGCCTCGGGCTTCTGCTACGTCAATGACATTGTTCTGGGAATTCTGGAACTGCTTA
                                                                                                                                                                                                                  ttcggttcttaagatcttacaacgttcctctc---atggtgttgggtggtgaagggtata
                                                                              530 acagacaggacgctgatatcgctatcaattggggcggtgggcttcaccatgctaagaaaa
                                                                                          590 gcgaggettetggttttgetatgtaaacgacatcgtgetagggattetggagttgetea
                                                                                                                                                                         TCCCGGCCACTGCCGACACATTGCCGCCGGCAAGGGGAAATATTATGCGGTTA
                                                                                                                                                                                                                                                                                      atgttccactaaacgatggtatggacgatgaaagtttccgcagcttgtttagacctctta
                                                                                                                                                                agatgtttaagcgggttctctacatagatattgatgtccaccatggagatggagtggaag
                                                                                                                                                                                                       teccaggaaetggteacataagagatgttggegetgaaaaagggaaataetatgetetaa
                                                                                                                                                                                                                                                                                                  ctattcgaaatgttgcccgttgctggtgttatgagactgcagttgctgttggagtagagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    atgtcgacccaagtcctatggagaatttaaacacgcccaaagatatggagggataagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        acacgttgctggaacaactttcgggactaatacacgcacctagcgtccagtttca 1301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1010
                                                                                                    517
                                                                                                                                                                                                                                                                  757
                                                                                                                                                                                                                                                                                                         817
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1177
                                                                                                                                                               650
                                                                                                                                                                                  637
                                                                                                                                                                                                       710
                                                                                                                                                                                                                                                                                      830
                                                                                                                                                                                                                                                                                                                             890
                                                                                                                                                                                                                                                                                                                                                 877
                                                                                                                                                                                                                                                                                                                                                                     950
                                                                                                                                                                                                                                                                                                                                                                                        937
                                                                                                                                                                                                                                                                                                                                                                                                                              266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1237
 ò
                    g
                                      ò
                                                          g
                                                                                ò
                                                                                                 g
                                                                                                                     ò
                                                                                                                                         g
                                                                                                                                                                                q
                                                                                                                                                             ò
                                                                                                                                                                                                      ò
                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
```

```
963 teggttggttgetteaaettateagteaagggteaegetgattgeetteggttettaag 1022
                                                                                                                                                                                                                                  cgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggttat 902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cagttacttctacgagccgacgatcggagactactactacggtcaaggccacccgatgaa
                                                                                                                                                                                                                                                                                                                                                 gcctcaccggatccgtatggctcatagcctaatcattcactatcacctccaccgtcgctt
                                                                                                                                                                                                                                                                                                                                                                                                       303 agamatcagtcgcctagcctcgctgacgcctccgatatcggccgattccattcgccgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tgatategetateaattggggeggtgggetteaceatgetaagaaaagegaggettetgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ggttctctacatagatattgatgtccaccatggagatggagtggaagaaggttttacac
                                                                                                                                                                                                                                                            300 GCCTCATAGAATCCGCATGACCCATAACTTGCTGTTAAATTATGGCTTATACAGAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                   360 GGAAATATATAGGCCCCATAAAGCCACTGCCGAAGAAATGACAAAATATCACAGTGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttccgctgcacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        423 aaacctaaggegatteaatgteggtgaggattgteetgtettegaeggaetttttgattt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ttgccgtgcttccgccggaggttctattggtgctgccgtcaaattaaacagacgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGATATGGCTGTTAATTGGGCTGGAGGATTACATCATGCTAAGAAATACGAAGCATCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  714 AGTCTTATATATTGATATAGATATTCATCATGGTGATGGTGTTGAAGAAGCTTTTTATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     783 tcacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgttccactaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ggaagtgtatcagccagaggcagttgttcttcagtggtggtgctgactccttaagtggttga
                                                                                                                                                                          Score 444.6; DB 6;
Pred. No. 2.1e-114;
0; Mismatches 454;
Macleod, A.R., Li, Z. and Besterman, J.M.
Inhibition of histone deacetylase
Patent: WO 0071703-A 27 30-NOV-2000;
Methylgene, Inc. (CA)
                                                                                     /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                        Location/Qualiflers
                                                                                                                 454 g
                                                                                                                                                                        Query Match 24.7%;
Best Local Similarity 61.4%;
Matches 733; Conservative (
                                                                                                                  360 c
                                                                                                                  ø
                                                                                                                  979
                                                                       source
             TITLE
JOURNAL
                                                                                                                 COUNT
                                                                                                                                                                                                                                 123
                                                                                                                                                                                                                                                                                          183
                                                                                                                                                                                                                                                                                                                                                 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                954
                                                          FEATURES
                                                                                                               BASE CO
                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1985)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA
WO0071703.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AX053103 1985 bp
Sequence 27 from Patent AX053103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AX053103.1 GI:12227158
```

482

533 542 593 602 653 662 713 722 782

human.

ORGANISM

REFERENCE

DEFINITION

AX053103

ACCESSION VERSION

KEYWORDS SOURCE

Search completed: March 9, 2002, 00:54:32 Job time: 4519 sec

	· · ·	
		•
		•
		•

```
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
```

 nucleic search, using sw model OM nucleic March 8, 2002, 23:17:23; Search time 125.93 Seconds Run on:

(without alignments) 12254.311 Million cell updates/sec

US-09-645-337-3 1800 1 gtgcccacaactcctagtaa.....acgcgtgcatgcgacgtcat 1800 Perfect score: Sequence:

IDENTITY_NUC Gapop 10.0 , Gapext 1.0

Scoring table:

Searched:

Total number of hits satisfying chosen parameters:

930621 segs, 428662619 residues

seq length: 0 seq length: 2000000000 Minimum DB : Maximum DB : Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

N_Geneseq_1101:* Database

/SIDS2/gcgdata/geneseq/genesegn/NA1980. DAT:*
/SIDS2/gcgdata/geneseq/genesegn/NA1981. DAT:*
/SIDS2/gcgdata/geneseq/genesegn/NA1982. DAT:*
/SIDS2/gcgdata/geneseg/genesegn/NA1983. DAT:*
/SIDS2/gcgdata/geneseg/genesegn/NA1985. DAT:*
/SIDS2/gcgdata/geneseg/genesegn/NA1985. DAT:*
/SIDS2/gcgdata/geneseg/genesegn/NA1985. DAT:*
/SIDS2/gcgdata/geneseg/genesegn/NA1985. DAT:*
/SIDS2/gcgdata/geneseg/genesegn/NA1986. DAT:*
/SIDS2/gcgdata/geneseg/genesegn/NA1986. DAT:* /SIDS2/gcgdata/geneseq/geneseqn/NA2000.DAT:*/SIDS2/gcgdata/geneseq/geneseqn/NA2001.DAT:* /SIDS2/gcgdata/geneseq/geneseqn/NA1998.DAT:*/SIDS2/gcgdata/geneseq/geneseqn/NA1999.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

		Description	Nucleotide sequence	Arabidopsis thalia	Arabidopsis thalia	Maize histone deac	Maize histone deac	Maize histone deac	Nucleotide sequenc	Rice histone deace	Soybean histone de	Human METH2 relate	U31814 cDNA clone.
SUMMARIES		ID	AAF80351	AAC33022	AAC46043	AAX90837	AAX90840	AAX90839	AAF80350	AAZ58259	AA258260	AA232066	AAC90323
		DB	22	21	21	20	20	20	22	21	21	20	22
		Query Match Length DB	1800	1611	1609	1826	1943	2019	1807	1990	1805	1985	1985
	æ	Query Match	96.66	89.3	89.5	34.1	30.5	29.5	29.1	28.8	27.6	24.7	24.7
		Score	1799	1606.8	1606.4	614	549.6	530.2	523.4	518.8	497.2	444.6	444.6
		Result No.		7	æ	7	'n	9	7	ထ	σ	10	11

Miki B, Brown D, Tian L,

WPI; 2001-258457/27. P-PSDB; AAB67812.

Human histone deac CDNA encoding a hi Human histone deac Human prostate can RPDL transcription Human prostate can RPDL transcription Human polynucleoti Nucleotide sequenc Partial cDNA encod Human polynucleoti Fusarium venenatum Human Dynucleoti Fusarium venenatum Human Dreast tumou Wheat histone deac Human ovarian canc Wild-type histone Cys75Serfcys77Ser Tyr297Phe mutant o Partial cDNA encod Novel human polynucleoti Fusarium canc Wild-type histone Cys75Serfcys77Ser Tyr297Phe mutant o Partial cDNA encod Novel human polynu Rat kd312 polypept Human breast cance	Human colon cancer Human secreted pro Human secreted pro Human secreted pro Human pancreatic c Human secreted pro Human secreted pro Human secreted pro Human consecutic c
AAC89555 AAT86318 AAT86318 AAT86311 AAC89554 AAT12940 AAC89556 AAT12940 AAC89556 AAT12940 AAC89556 AAT12929 AAT86373 AAT86373 AAT86373 AAT86373 AAT86373 AAT86373 AAT86373 AAT86373 AAT86373 AAT86373 AAC8938 AAC89338 AAC89338 AAC89338 AAC89338 AAC89339 AAC89339 AAC89339 AAC89339 AAC89339 AAC89339 AAC89339 AAC89339	AAC98033 AAX3387 AAD13384 AAD13354 AAC98537 AAC9818 AAD05333 AAC99033
75	20 20 20 20 20 20 20 20 20 20 20 20 20 2
1988 1475 14475 16111 22163 22163 22163 1654 1639 175 175 175 175 175 175 175 175 175 175	1060 824 1088 744 1837 2864 675 2116
44444444000011 	4 4 4 4 4 4 4 4 4 4 4 4 4 4 6 6 6 6 6 6
	78.6 78.4 77.6 77.7 77.7 77.7
11122222222222222222222222222222222222	0 0 0 0 0 0 0 0 0 0 0 0 0 0

ALIGNMENTS

```
Histone deacetylase; AtRPD3B; RPD3; gene expression; transgenic plant; HDA1; ethylene-responsive phenotype; hypocotyl elongation; ds.
                                                                          Nucleotide sequence of a histone deacetylase designated AtRPD3B.
                                                                                                                                           Location/Qualifiers
121..1536
/*tag= a /product= "histone deacetylase AtRPD3B"
                                                                                                                                                                                                                                                                        (MIAC ) CANADA MIN AGRIC & AGRI-FOOD CANADA.
                   BP
                  AAF80351 standard; DNA; 1800
                                                                                                                                                                                                                                                     99US-0383971
                                                                                                                                                                                                                                   24-AUG-2000; 2000CA-2316036
                                                                                                                          Arabidopsis thaliana.
                                                                                                                                                                                                                                                     27-AUG-1999;
                                                                                                                                                                                            CA2316036-A1
                                                                                                                                                                                                                27-FEB-2001.
                                                       29-JUN-2001
                                    AAF80351;
         AAF80351
RESULT
```

sthods for regulating gene expression in transgenic plants, e.g. spressing ethylene-responsive phenotypes (e.g. inhibition of hypocotyllongation), comprises introducing genes encoding histone deacetylase repressing

91pp; English, 18; 9; Fig Claim

The present sequence encodes an Arabidopsis thaliana histone deacetylase designated ALRPD3B. The protein is homologous to yeast RPD3 and HDA1. The polynucleotide sequence is used in the method of the invention. The specification describes a method for regulating gene expression in transgenic plants. The method comprises modifying histones by introducing chimeric nucleotide sequences which have regulatory elements in operative association with a gene of interest or with a nucleotide sequence encoding histone deacetylase. The method is useful for regulating the particularly for repressing ethylene-responsive phenotypes (e.g. inhibition of hypocotyl elongation). The method is also useful as a functional test for identifying a phenotype associated with perturbing a gene. The histone deacetylase genes are useful for altering the development of an organism.

Sequence 1800 BP; 478 A; 390 C; 456 G; 476 T; 0 other;

ö 120 240 240 300 300 360 360 420 420 480 540 540 999 Gaps 9 9 gtcagttacttctacgagccgacgatcggagactactactactacggtcaaggccaccgatg gigoccacaactectagiaatgaetiteteaggeatigitgaeacaaattitgeteigag gtgcccacaactcctagtaatgactttctcaggcattgttgacacaaattttgctctgag gtcagttacttctacgagccgacgatcggagactactactacggtcaaggccacccgatg aagcctcaccggatccgtatggctcatagcctaatcattcactatcacctccaccgtcgc ttagaaatcagtcgccttagcctcgctgacgcctccgatatcggccgattccattcgccg ttagaaatcagtcgcctagcctcgctgacgcctccgatatcggccgattccattcgccg gagtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttccgctgca cgaaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacggactttttgat gctgatatcgctatcaattggggcggtgggcttcaccatgctaagaaaagcgaggcttct getgatategetateaattggggeggtgggetteaceatgetaagaaaagegaggettet 999ttttgctatgtaaacgacatcgtgctagggattctggagttgctcaagatgtttaag . 0 Length 1800; Indels 22; 1; DB 0; Mismatches 99.9%; Score 1799; 99.9%; Pred. No. 0; Conservative Best Local Similarity Matches 1799; Conserv Query Match 61 61 121 181 241 241 301 361 181 301 361 421 121 481 481 541 601 541 601 ò 셤 ò 셤 ò g ò q 9 ò ò q ò g ò g ò a ò g ò g

1140 1140 1020 1020 1080 1200 1200 1260 1260 1320 1320 1380 1380 1440 1440 1500 1500 1620 840 900 900 cgggttctctacatagatattgatgtccaccatggagatggagtggaagaagcgttttac cgggttctctacatagatattgatgtccaccatggagatggagtggaagaagcgttttac accactgatagagttatgactgtttctttccacaaatttggggactttttcccaggaact ggtcacataagagatgttggcgctgaaaaagggaaatactatgctctaaaatgttccacta aacgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggtt atggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactccttaagtggt gatoggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttcggttctta agatottacaacgitoototoatggigitigggiggigaagggiaiaciaitogaaaigit agatottacaacgttcctctcatggtgttgggtggtgaagggtatactattcgaaatgtt cettacaatgagtattttgagtatttcggcccagattatacgcttcatgtcgacccaagt cctatggagaatttaaacacgcccaaagatatggagaggataaggaacacgttgctggaa caactttcgggactaatacacgcacctagcgtccagttcagcacaccaccagtcaat cgagttttggacgagccggaagatgacatggagacaagaccaaaaacctcgcatntggagt cgagttttggacgagccggaagatgacatggagacaagaccaaaaacctcgcatctggagt ggaactgcgacttatgaatcagacagtgacgatgatgataaaacctcttcatggttactca ggaactgcgacttatgaatcagacagtgacgatgatgataaacctcttcatggttactca tgtcgtggtggcgcaactacggacagggactctaccggtgaagatgaaatgatgacgat tgatgttttttcagcaaccttttgagttctgtgaaaacgctgcattgattagaacagtga tgatgttttttcagcaaccttttgagttctgtgaaaacgctgcattgattagaacagtga 1261 721 781 781 901 961 961 1021 1021 1081 1081 1141 1141 1201 1201 1261 1321 1321 1381 1381 1441 1441 1501 1561 721 901 1501 1561 1621 1621 1681 1681 ò a ò g δ 9 q g Op g ò g qq g QQ qq õ ò ò ò ð ò ô ŏ g ò ò g ò g g g ò Ωý qq ò

```
Hybridisation assay; genetic mapping; gene expression control; protein identification; signal transduction pathway; metabolic pathway; promoter; termination sequence; ss.
                                                                                                                                                                Arabidopsis thaliana DNA fragment SEQ ID NO: 1498
                                                                                     AAC33022 standard; DNA; 1611
                                                                                                                                                                                                                                                                                                                                       990S-0121825
990S-0123180
990S-0125788
990S-0125788
990S-0126764
990S-0126765
990S-0126765
990S-0126714
990S-0130077
990S-0130891
990S-0130891
990S-0131886
990S-0132486
990S-0132863
990S-0134219
990S-0134219
990S-0136782
                                                                                                                                                                                                                                                                                                                  2000EP-0301439
                                                                                                                                     17-OCT-2000 (first entry)
                                                                                                                                                                                                                                        Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                       25-FEB-1999; 05-MAR-1999; 05-MAR-1999; 23-MAR-1999; 23-MAR-1999; 25-MAR-1999; 06-APR-1999; 06-APR-1999; 23-APR-1999; 23-APR-1999; 06-MAY-1999; 06-MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-MAY-1999;
27-MAY-1999;
28-MAY-1999;
01-JUN-1999;
03-JUN-1999;
04-JUN-1999;
06-JUN-1999;
10-JUN-1999;
14-JUN-1999;
16-JUN-1999;
16-JUN-1999;
16-JUN-1999;
17-JUN-1999;
                                                                                                                                                                                                                                                                EP1033405-A2
                                                                                                                                                                                                                                                                                                                 25-FEB-2000;
                                                                                                             AAC33022;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -MAY-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21 - MAY - 1
24 - MAY - 1
25 - MAY - 1
27 - MAY - 1
28 - MAY - 1
28 - MAY - 1
01 - JUN - 1
03 - JUN - 1
04 - JUN - 1
06 - JUN - 1
10 - JUN - 1
                                                               ~
                                                                           AAC33022
  ò
                         q
```

```
PR 18-JUN-1999; 99US-0139455.
PR 18-JUN-1999; 99US-0139455.
PR 18-JUN-1999; 99US-0139455.
PR 18-JUN-1999; 99US-0139456.
PR 18-JUN-1999; 99US-0139460.
PR 18-JUN-1999; 99US-0139461.
PR 18-JUN-1999; 99US-0139461.
PR 18-JUN-1999; 99US-0139461.
PR 22-JUN-1999; 99US-0139462.
PR 22-JUN-1999; 99US-0139753.
PR 22-JUN-1999; 99US-0139753.
PR 22-JUL-1999; 99US-0140354.
PR 22-JUL-1999; 99US-0140354.
PR 22-JUL-1999; 99US-0140375.
PR 13-JUL-1999; 99US-0140377.
PR 13-JUL-1999; 99US-0140377.
PR 13-JUL-1999; 99US-0141331.
PR 22-JUL-1999; 99US-0141331.
PR 22-JUL-1999; 99US-0144084.
PR 22-JUL-1999; 99US-0144085.
PR 22-JUL-1999; 99US-0144085.
PR 22-JUL-1999; 99US-0144085.
PR 22-JUL-1999; 99US-0144085.
PR 22-JUL-1999; 99US-0144331.
PR 22-JUL-1999; 99US-0144331.
PR 22-JUL-1999; 99US-0144085.
PR 22-JUL-1999; 99US-0144331.
PR 22-JUL-1999; 99US-0144386.
PR 22-JUL-1999; 99US-0144386.
PR 22-JUL-1999; 99US-0144331.
PR 23-JUL-1999; 99US-0144331.
PR 23-JUL-1999; 99US-0144331.
PR 23-JUL-1999; 99US-0144331.
PR 24-JUL-1999; 99US-0144331.
PR 24
```

```
1020
                                                                                                                                                                                                   1080
                                                                                                                                                                                                                      1041
                                                                                                                                                                                             1101
                                            360
                                                        420
                                                                     480
                                                                                       621
                                                                                              009
                                                                                                                       720
                                                                                                                                    780
                                                                                                                                                840
                                                                                                                                                             900
                                                                                                                                                                    981
                                                                                                                                                                          960
      180
            261
                        441
                                                                           561
                                                                                 540
                                                                                                    681
                                                                                                           099
                                                                                                                 741
                                                                                                                                          861
                                                                                                                                                       921
201
                                     381
                                                              501
                                                                                                                             801
                                     agaagcgttttacaccactgatagagttatgact
                                                                                                                                                          acgtaagcggcgagtcagttacttctacgagccg
                                                               eggaetttttgatttttgeegtgetteegeegga
                                                                                                                       agaagcgttttacaccactgatagagttatgact
                                                                                                                                                       tatecagaaggttatggaagtgtateageeagag
```

```
19-Jul-1999;
20-Jul-1999;
20-Jul-1999;
20-Jul-1999;
21-Jul-1999;
21-Jul-1999;
21-Jul-1999;
21-Jul-1999;
                                                                                                                                                                                                 18-JUN-1999)
18-JUN-1999)
18-JUN-1999)
21-JUN-1999)
22-JUN-1999)
23-JUN-1999)
                                                                                                                                                                                                                                                                                                                                  16-JUL-1999;
19-JUL-1999;
19-JUL-1999;
19-JUL-1999;
19-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                    22-JUL-1999;
22-JUL-1999;
22-JUL-1999;
23-JUL-1999;
                                                                                                                                                                                                                                                     29-JUN-1999;
30-JUN-1999;
01-JUL-1999;
01-JUL-1999;
                                                                                                                                                                                                                                                                                                     12-JUL-1999;
13-JUL-1999;
14-JUL-1999;
                                                                                                                                                                                                                                                                                         08-JUL-1999;
09-JUL-1999;
                                                                                                                                                                                                                                                                             02-JUL-1999;
06-JUL-1999;
                                                                                                                                                                                                                                                                                                                       15-JUL-1999;
16-JUL-1999;
                                                                                                                                                                                                                                                28-JUN-1999
                                                                                        04-JUN-1
07-JUN-1
 1401
                                                                                             gatgacatggagacaagaccaaaaacctcgcatntggagtggaactgcgacttatgaatca
                                                                                                                                                                                                                                    Hybridisation assay; genetic mapping; gene expression control; protein identification; signal transduction pathway; metabolic pathway; promoter; termination sequence; ss.
                                                                                                                                             Arabidopsis thallana DNA fragment SEQ ID NO: 48704.
                                                                                                                                                                                      BP
                                                                                                                                                                                                                                                                                                          990S-0121825.
990S-0123180.
990S-0125788.
990S-012624.
990S-0126785.
990S-01276785.
990S-0128714.
990S-01308714.
990S-01308714.
990S-0130891.
990S-0130891.
990S-0132485.
                                                                                                                                                                                     AAC46043 standard; DNA; 1609
                                                                                                                                                                                                                                                                                              25-FEB-2000; 2000EP-0301439
                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0132863
                                                                                                                                                                                                             18-OCT-2000 (first entry)
                                                                                                                                                                                                                                                            Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                         25 - FEB - 1999,
05 - MAR - 1999,
23 - MAR - 1999,
23 - MAR - 1999,
25 - MAR - 1999,
01 - APR - 1999,
06 - APR - 1999,
16 - APR - 1999,
19 - APR - 1999,
23 - APR - 1999,
23 - APR - 1999,
30 - APR - 1999,
                                                                                                                                                                                                                                                                       EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                          -MAY-1999;
-MAY-1999;
-MAY-1999;
                                                                                                                                                                                                                                                                                   06-SEP-2000
                                                                                                                                                                                                  AAC46043;
                                                                                                                                                                          m
                                              1342
                                                                                                                                                                               AAC46043
                                                                                                                                                                           RESULT
                                                                                                                                                                                           g
                      ò
                               q
                                           ò
                                                        g
                                                                     δ
                                                                              8
                                                                                            ò
                                                                                                        q
                                                                                                                     ò
                                                                                                                               g
                                                                                                                                             ò
                                                                                                                                                        9
```

```
990S-0134256.
990S-0134218.
990S-0134218.
990S-0134218.
990S-0134213.
990S-0134370.
990S-0134370.
990S-0135323.
990S-0135529.
990S-0135621.
990S-0135621.
990S-0135621.
990S-0135622.
990S-0137528.
990S-0137528.
990S-0139455.
990S-0139455.
990S-0139455.
990S-0139455.
990S-0139455.
990S-0139456.
990S-0139456.
990S-0139456.
990S-0139462.
990S-0139462.
990S-0139463.
990S-0139463.
990S-0139463.
990S-0139463.
990S-0139463.
990S-0139463.
990S-0139463.
990S-0139463.
990S-0139463.
990S-0140354.
990S-0140354.
990S-0142055.
990S-014205.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            990S-014400S-
990S-0144085-
990S-0144385-
990S-0144331-
990S-0144331-
990S-0144333-
990S-0144335-
990S-0144632-
990S-0144632-
990S-0144632-
990S-014632-
990S-014632-
990S-0145086-
990S-0145086-
990S-0145086-
990S-0145086-
990S-0145086-
990S-0145086-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0145192
99US-0145145
                      4 - MAY - 1999;

(4 - MAY - 1999;

(4 - MAY - 1999;

(4 - MAY - 1999;

19 - MAY - 1999;

20 - MAY - 1999;

21 - MAY - 1999;

22 - MAY - 1999;

23 - MAY - 1999;

24 - MAY - 1999;

27 - MAY - 1999;

27 - MAY - 1999;

28 - JUN - 1999;

29 - JUN - 1999;

30 - JUN - 1999;

31 - JUN - 19
```

Sat Mar 9 09:45:56 2002

9US - 0145218 9US - 0145224 9US - 0145276 9US - 0145913 9US - 0145918 9US - 0145918 9US - 0146388 9US - 0146388 9US - 0146388 9US - 0147204 9US - 0147204 9US - 0147204 9US - 0147204	990S - 0147495. 990S - 01474916. 990S - 0148171. 990S - 0148319. 990S - 0148341. 990S - 0149175. 990S - 0149175. 990S - 0149175. 990S - 0149722. 990S - 0149723. 990S - 0149902. 990S - 0150884. 990S - 0150866. 990S - 0150866. 990S - 0151086. 990S - 0151086. 990S - 0151086. 990S - 0151086. 990S - 0151086.	905-0154039 906-0154039 906-0155139 906-01555896 906-01556596 906-0157117 906-0157117 906-0157117 906-0157117 906-0157117 906-0157117 906-0157117 906-0157117 906-0157117 906-0157117 906-0159331 906-0159538 906-0159638 906-0159638 906-0159638 906-0159638 906-0159638 906-0159638 906-0159638 906-0159638 906-0159638 906-0159638 906-0159638 906-0159638 906-0159638 906-016076 906-0160770 906-016086
3.JUL-1999 3.JUL-1999 6.JUL-1999 7.JUL-1999 7.JUL-1999 7.JUL-1999 2.AUG-1999 2.AUG-1999 4.AUG-1999 4.AUG-1999 5.AUG-1999	06-AGG 1999; 09-AGG 1999; 10-AGG 1999; 11-AGG 1999; 13-AGG 1999; 13-AGG 1999; 13-AGG 1999; 16-AGG 1999; 20-AGG 1999; 20-AGG 1999; 20-AGG 1999; 23-AGG 1999; 23-AGG 1999; 27-AGG 1999; 27-AG	2. SEP-1999 2. SEP-1999 2. SEP-1999 4. SEP-1999 6. SEP-1999 6. CCT-1999 7. CCT-1999
~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	2 X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X

	ć o														
	sde	83	143	203	263	323	383	443	503	563	623	683	743	803	863
	609; 0; G		ggcat ggcat	ccgac ccgac	atggc atggc	agcct agcct	gette gette	aatgt aatgt	99899 99899	tgggg tgggg	gacat gacat	attga attga	actgt actgt	36366 acac	gaaag gaaag
	gth 1 s	tagag tagag	aaagc aaagc	acgag acgag	atccgt atccgt	gecet gecet	tecto	gatto gatto		tcaat tcaat	taaac taaac	tagat tagat	ttatg tatg	atgttd atgttd	acgato
	Len Indel	9999aa 999aa	agacg agacg	cttct	.caccgga caccgga	cagtc cagtc	tgact tgact	aaggc aaggc	tgett tgett	tegeta tegeta	atg 	ctaca ctaca	tagag tagag	aagaga aagaga	tatgg tatgg
	DB 21; 2;	laaactt aaactt	.ggagge .ggagge	tcagtta tcagtta	geet geet	agaaat agaaat	igtatgt igtatgt	aaacct	ttgccg ttgccg	tgata tgata	gttttgct gttttgct	ggttet ggttet	cactga cactga	tcacat tcacat	cgatgg cgatgg
	06.4; . 0; tches	ctgagta ctgagta	cggagati cggagati	ggcgagt ggcgagt	egatgaa egatgaa	gtegett gtegett	cgccgga LLLLLL cgccgga	ctgcacg ctgcacg	ttgattt ttgattt	iggaege 	ttetgg 	taageg taageg	ttacac	pactgg 	actaaa
	re 16 d. No Misma	ttget ttget	agagac agagac	taagee taagee	ccaccc	ccacco	ccatto	tteege tteege	acttt acttt	cagaca 	cgagge cgagge	gatgtt gatgtt	agegtt agegtt	cccagg [1111 cccagg	tgttcca tgttcca
	Sco Pre 0;	aaatt aaatt	gagtg gagtg	ggacg ggacg	caagg caagg	cacct cacct	cgatt cgatt	gatec gatec	gacgg 	ttaaa ttaaa	aaaag aaaag	ctcaa ctcaa	gaaga: gaaga:	ttttt ttttt	ctaaal ctaaal
60981 61404 61405 61406 61359 61350 61360 61361 61992	19.28; 19.98; ve	tgacac tgacac	attet attet	cccgac cccgac	eggt IIII eggt	stat stat	tegge tegge	tgggc tgggc	tette tette	tcaaa tcaaa	ctaag ctaag	agttg agttg	gagtg gagtg	gggac gggac	atget atget
90S-01 90S-01 90S-01 90S-01 90S-01 90S-01 90S-01 90S-01	ty 9 ervati	attgtt attgtt	agagag agagag	egggae 	ctacta 	tcattca tcattca	ccgata ccgata	aatcta 	gteetg gteetg	ctgccg ctgccg	ccatg [111] ccatg	ttctgg ttctgg	gagatg gagatg	aatttg aatttg	atact atact
	ilarit	caggca caggca	gtgaga 	geegte	agactac agactac	cctaat cctaat	geete	gccgga 	ggattg ggattg	tggtgc tggtgc	gettea gettea	agggat agggat	ccatgg ccatgg	ccacaa ccacaa	agggaa agggaa
-1999 -1999 -1999 -1999 -1999 -1999 -1999 -1999	ր Տ1m)7;	tttet	tetga tetga	tetet	ategg ategg	catag catag	gctga gctga	gtttc gtttc	ggtga ggtga	tctat tctat	ggtgg ggtgg	cgtgcta cgtgcta	gtcca gtcca	tettt tettt	gaaaa gaaaa
22-0CT 22-0CT 25-0CT 25-0CT 25-0CT 26-0CT 26-0CT 26-0CT 28-0CT 28-0CT 28-0CT	ery Match it Local ches 16(24 c 1 c	84 c	144 c	204 9 181 9	264 to 241 to	324 c	384 c	444 c 421 c	504 t 481 t	564 c 541 c	624 c	684 t 	744 t 721 t	804 t 781 t
~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	Que Bes Mat	Oy Dp	Oy Dp	Qy	Oy DP	Oy Dp	oy Qu	Oy Dp	oy Op	oy op	Qy Dp	Oy Dp	Oy Dp	Qy Dp	Qy Db

us-09-645-337-3.rng

```
Maize histone deacetylase; family 1, ZmHD1; promoter regulator; promoter; RNA polymerase II; transcription; plant transformation; heterochromatin, disease resistance; chromatin assembly; gene activity; toxin screening; pathogenicity; disease response promoter; ds.
                                                                                                                                                                                                                                                                                                                                                                                                   1403
                                                                                                1043
                                                                                                                                                 1103
                                                                                                                                                                                               tccatcgtcttaaaccagcttgatggttttggtgtctcttttgccatatgataatgtcggc 1583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tecategtettaaaeceagettgatggtttggtgtetettttgeeatatgataatgtegge 1560
                                                                                                                                                                                                                                                                                                                           caaagatatggagaggataaggaacacgttgctggaacaactttcgggactaatacacgc 1260
                                                                                                                                                                                                                                                                                                                                                                         acctagegiceagiticageacacaceaceagicaategagititiggaegageeggaaga 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cagggactctaccggtgaagatgaaatggatgacgataacccagagccagacgtgaatcc 1523
                                                                                                                                                 ggtgttgggttgaagggtatactattcgaaatgttgcccqttgctgqtqttatqaqac
                                                                                                                                                               841 tttccgcagcttgtttagacctcttatccagaaggttatggaagtgtatcagccagaggc
                                                                                                                         atcagtcaagggtcacgctgattgccttcggttcttaagatcttacaacgttcctctat
                                                                                                                                                                                                                                                                                                  caaagatatggagagataaggaacacgttgctggaacaactttcgggactaatacacgc
                                                                                                                                                                                                                                                                                                                                                    acctagcgtccagtttcagcacacaccaccagtcaatcgagttttggacgagccggaaga
                                                                                                                                                                                                                                                                                                                                                                                                   tgacatggagacaagaccaaaacctcgcatntggagtggaactgcgacttatgaatcaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                    cagtgacgatgatgataaacctcttcatggttactcatgtcgtggtggcgcaactacgga
tttccgcagcttgtttagacctcttatccagaaggttatggaagtgtatcagccagaggc
                                                                       agttgttcttcagtgtggtgctgactccttaagtggtgatcggttgggttgcttcaactt
                                                                                                 atcagtcaagggtcacgctgattgccttcggttcttaagatcttacaacgttcctctat
                                                agttgttcttcagtgtggtgctgactccttaagtggtgatcggttgggttgcttcaactt
                                                                                                              Location/Qualifiers
29..1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Maize histone deacetylase-1 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAX90837 standard; DNA; 1826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAX90837
                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1501
                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                1104
                                                                                                                                                                                                                                                                                                                        1201
                                                                                                                                                                                                                                                                                                                                                                          1261
                                                                                                                                                                                                                                                                                                                                                                                                   1344
                                                                                                                                                                                                                                                                                                                                                                                                                         1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1464
                                                                                               984
                                                                                                                                                                                                                                                 1164
                                                                                                                                                                                                                                                                                                 1224
                                                                                                                                                                                                                                                                                                                                                 1284
                                                924
                                                                       901
                                                                                                                       196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAX90837
                                                                                                                                                                  g
                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                             5
                                                                                                                    g
                                                                                                                                               ò
                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
ò
                                              ò
                                                                      g
```

```
The present sequence encodes a maize histone deacetylase. This DNA belongs to family 1, ZmHDl and appears to be regulator of promoters for RNA polymerase II, for transcription of genes. The nucleotide sequence can be used to transform plants and increase disease resistance by altering the levels of heterochromatin, altering chromatin assembly, and gene activity of the transformed plants. Additionally, compositions find use in screening for toxins that affect pathogenicity and in determining which disease response promoters are regulated by histone deacetylase.
                                                                                                                                                                                                                                which have
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      atoggagactactactacggtcaaggccaccogatgaagcctcaccggatccgtatggct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              265 catagectaateatteaetateaeeteoeeegtegettagaaateagtegeeetageete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             505 tetattggtgetgeegteaaattaaacagacaggaegetgatategetateaattgggge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tetetgeegteggaecegaeggaegtaageggegagteagttaettetaegageegaeg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cactegetggtggtecactacggeetecaccgeetectegagetetecegecectacceg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            getgaegeeteegatateggeegatteeattegeeggagtatgttgaetteetegettee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gtttcgccggaatctatgggcgatccttccgctgcacgaaacctaaggcgattcaatgtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ggtgaggattgtcctgtcttcgacggactttttgatttttgccgtgcttccgccggaggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ggtgggcttcaccatgctaagaaaagcgaggcttctgggttttgctatgtaaacgacatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gtgctagggattctggagttgctcaagatgtttaagcgggttctctacatagatattgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1826;
                                                                                                                                                                                                                                   used for producing transgenic plants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   34.1%; Score 614; DB 20; Length 1 69.4%; Pred. No. 3e-161; Live 0; Mismatches 370; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1826 BP; 437 A; 471 C; 475 G; 443 T; 0 other;
/product= "Maize histone deacetylase"
                                                                                                                                                                                                                                                                          Claim 1; Page 46-49; 87pp; English.
                                                                                                                                                                Crane VC;
                                                                                                                                                                                                                                  Wew deacetylase genes, used f
Increased disease resistance
                                                                                 99WO-US07370
                                                                                                           98US-0080563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 34.11
Best Local Similarity 69.4'
Matches 852; Conservative
                                                                                                                                      (PION-) PIONEER HI-BRED
                                                                                                                                                                Briggs SP,
                                                                                                                                                                                          WPI; 1999-611038/52
                                                                                                                                                                                                       P-PSDB; AAY28797
                            W09951731-A2
                                                                                                           03-APR-1998;
                                                                                                                                                                Baldwin DA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
```

536

q

1;

```
Maize histone deacetylase; family 1, ZmHD1; promoter regulator; promoter; RNA polymerase II; transcription; plant transformation; heterochromatin; disease resistance; chromatin assembly; gene activity; toxin screening;
                                                                                                                                                                                                                                                1104
                                                                                                                                                                                                                                                                                                              aaggacttggagaacataaagaacatgatattggagaacctgtcaaagatagaacatgtt 1195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gcagttgctgttggagtagagccggacaacaactcccttacaatgagtattttgagtat 1164
                                                                                                                                                                                                                                                                                                                                                                         gcagitgcigitggagttgaacctgataacaagctgccttacaatgattactatgagtac 1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cctagogtccagtttcagcacaccaccagtcaatcgagttttggacgagccggaagat 1344
                                                            gtccaccatggagatggcgtggaggaggccttcttcactacaaaccgagtcatgactgtt
                                               totttccacaaatttggggactttttcccaggaactggtcacataagagatgttggcgct
                                                                                                                                                              gtgttgggtggtagaagggtatactattcgaaatgttgcccgttgctggtgttatgagact
                                                                                                                                                                                                                                                                                                                                                                                                                        tttggccctgattatactcttcatatccaaccaaaaagtgttgaaaacctgaataccaca
gtccaccatggagatggagtggaagaagcgttttacaccactgatagagttatgactgtt
                                                                                                gaaaaagggaaatactatgctctaaatgttccactaaacgatggtatggacgatgaaagt
                                                                                                                         gccgaagggaagcattatgctctgaatgttcccctgagtgatggtatcgatgacaccacc
                                                                                                                                               ttccgcagcttgtttagacctcttatccagaaggttatggaagtgtatcagccagaggca
                                                                                                                                                                                                 ttoggcccagattatacgcttcatgtcgacccaagtcctatggagaatttaaacacgccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                   aaagatatggagaggataaggaacacgttgctggaacaactttcgggactaatacacgca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     51..1610 /
/*tag= a
/product= "Maize histone deacetylase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           disease response promoter; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gacatggagacaagaccaaaacctcgca 1372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1256 gacatggacaagaggccacctcagcgca 1283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Maize histone deacetylase-4 DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAX90840 standard; DNA; 1943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pathogenicity;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    W09951731-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zea mays.
                                               745
                                                                                                                                                                                                                                                                                                 1045
                                                                                                                                                                                                                                                                                                                                                 1105
                                                                                                                                                                                                                                                                                                                                                                         1016
                                                                                                                                                                                                                                                                                                                                                                                                 1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1345
                                                                                               802
                                                                                                                        716
                                                                                                                                                865
                                                                                                                                                                         176
                                                                                                                                                                                                                         936
                                                                                                                                                                                                                                                 985
                                                                                                                                                                                                                                                                        968
                                                                                                                                                                                                                                                                                                                        926
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAX90840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Key
                     q
ò
                                              ò
                                                                       å
                                                                                               ò
                                                                                                                      셤
                                                                                                                                               ò
                                                                                                                                                                        8
                                                                                                                                                                                                ò
                                                                                                                                                                                                                     QQ
                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                     QQ
                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                ç
                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
```

```
The present sequence encodes a maize histone deacetylase. This DNA belongs to family 1, ZmHDl and appears to be regulator of promoters for RNA polymerase II, for transcription of genes. The nucleotide sequence can be used to transform plants and increase disease resistance by altering the levels of heterochromatin, altering chromatin assembly, and gene activity of the transformed plants. Additionally, compositions find use in screening for toxins that affect pathogenicity and in determining which disease response promoters are regulated by histone deacetylase.
                                                                                                                                                                                       used for producing transgenic plants which have
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ggcagacgaaagcggcatctctctgccgtc---gggacccgacggacgtaagcggcgagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             183 cagttacttctacgagccgacgatcggagactactactacggtcaaggccacccgatgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 geeteaceggateegtatggeteatageetaateateaetaaeeteeaeegtegett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agaaatcagtcgcctagcctcgctgacgcctccgatatcggccgattccattcgccgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gcaggtgtaccgccccaacccggcccgcgaccgcgacctctgccgcttccacgccgacga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttccgctgcacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  311 ctacatcaacttcctgcgctccgtcacgccggaaacgcagcaggaccagatc....cg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tgatatcgctatcaattggggcggtgggcttcaccatgctaagaaaagcgaggcttctgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tgacatcgcaatcaactggtcgggggcctgcaccacgccaagaagtgcgaggcgtcggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                 12;
                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1943;
                                                                                                                                                                                                                                                                                                                                                                                                                    Score 549.6; DB 20; Length
Pred. No. 2.9e-143;
0; Mismatches 394; Indels
                                                                                                                                                                                                                                                                                                                                                                              Sequence 1943 BP; 510 A; 498 C; 497 G; 438 T; 0 other;
                                                                                                                                                                                                                             Claim 1; Page 60-63; 87pp; English
                                                                                                                       Crane VC;
                                                                                                                                                                                         New deacetylase genes, used f
increased disease resistance
                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 30.5%;
Best Local Similarity 67.1%;
Matches 828; Conservative
                                                                                           (PION-) PIONEER HI-BRED INT
                                     99WO-US07370
                                                                 98US-0080563
                                                                                                                     Briggs SP,
                                                                                                                                                WPI; 1999-611038/52
                                                                                                                                                              PSDB; AAY28800.
                                                                                                                                                                                         New deacetylase
                                     02-APR-1999;
                                                                                                                     Baldwin DA,
                                                                03-APR-1998;
            14-0CT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               482
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οχ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
```

3;

```
Maize histone deacetylase; family 1, ZmHD1; promoter regulator; promoter; RNA polymerase II; transcription; plant transformation; heterochromatin; disease resistance; chromatin assembly; gene activity; toxin screening; pathogenicity; disease response promoter; ds.
                                                                                                                                                                                                                                                                                                                                                                         ccgttgctggtgttatgagactgcagttgctgttggagtagagccggacaacacaccc 1142
                                                                                                                                                                                                                                                                                                                                                                                                                              1143 ttacaatgagtattttgagtatttcggcccagattatacgcttcatgtcgacccaagtcc 1202
                                                                                                                                                                                                                                                                                                                                                                                       1023 atcttacaacgttcctctcatggtgttgggtggtgaagggtatactattcgaaatgttgc 1082
                                                                                                                                                                                                                                                                                                                                            962 gtctttcaacgttccattgttgctccttggtggtggtggtggtataccataagaaatgttgc 1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                           tgttaatgagtactatgaatacttcggtccagattacactcttcatgttgcaccaagtaa 1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1142 catggagaacaaaaatacacgacaacaactggatgatatacgatctaaacttctggataa 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          toggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttcggttcttaag 1022
                                                                                                                                            902
                                                                                                                                                                                                   ggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactccttaagtggtga 962
                                                                                                                                                                                                                                                                                      961
  agttctgtatgtcgatatcgatatccaccatggtgatggagtggaggaggctttctacac 661
                                                                                                                                                                                                             723 cactgatagagttatgactgtttctttccacaaatttggggactttttcccaggaactgg
                                         783 toacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgttccactaaa
                                                                                                                ggatatccgtgacattggggcactcaaaagggaagtactactccctgaatgtccctctaga
                                                                                                                                           cgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggttat
                                                                                                                                                           tatggagaatttaaaccgcccaaagatatggagagagataaggaacacgttgctggaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1263 actiticgggactaalacacgcacctagcgiccagiticagcacaccaccagcaatcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag- a
/product= "Maize histone deacetylase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1323 agttttggacgagccggaagatgacatggagaca 1356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aatacctgagcaagatgaagatcaagatgatcca 1295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Maize histone deacetylase-3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAX90839 standard; DNA; 2019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        140..1459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             W09951731-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14-0CT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAX90839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1203
                                                                                                                                                                                                                                                                                                                                                                       1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1082
602
                                                                                                                                                                                                 903
                                                                                                                                                                                                                                                        963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
AAX90839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
셤
                            ò
                                                      g
                                                                               ò
                                                                                                          g
                                                                                                                                         à
                                                                                                                                                              g
                                                                                                                                                                                        οý
                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                              ô
                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
The present sequence encodes a maize histone deacetylase. This DNA belongs to family 1, ZmHD1 and appears to be regulator of promoters for RNA polymerase II, for transcription of genes. The nucleotide sequence can be used to transform plants and increase disease resistance by altering the levels of heterochromatin, altering chromatin assembly, and gene activity of the transformed plants. Additionally, compositions find use in screening for toxins that affect pathogenicity and in determining which disease response promoters are regulated by histone deacetylase.
                                                                                                                                                                                                                                                                                                                                                          New deacetylase genes, used for producing transgenic plants which have
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       114 gacggagatggaggcagacgaaagcggcatetetetgccg---tegggacecgacggacg 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             711 agogittiacaccacigatagagitaigacigiticiticcacaaaitiggggactiii 770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccattcgccggagtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        171 taageggegagteagttaettetaegageegaegateggagaetaetaetaeggteaagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccaccoftcgcttagaaatcagtcgcctagcctcgctgacgcctccgatatcggccgatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cctcgaccagatgcaagtgttccgccttcacctgccggcgaccgcgacctctgccgctt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ccacgecgaegattaegteteetteeteeggteegteacceeegaaacgeaggaeca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ttccgctgcacgaaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   439 gatecgegeg-----cteaagegetteaacgteggeggaggaetgeecegtettegaegg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cagacaggacgetgatategetateaattgggggeggtgggetteaceatgetaagaaaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gtaccaccagcgcgttctgtacgtggacattgatatccaccacggggacggcgtggagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ccacccgatgaagcctcaccggatccgtatggctcatagcctaatcattcactatcacct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    actttttgatttttgccgtgcttccgccggaggttctattggtgctgccgtcaaattaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             493 tetetacagittetgicagaegiaegegggggggetetgitggeggegeegteaageteaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cgaggettetgggttttgetatgtaaacgacatcgtgetaggggattetggagttgeteaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   610 cgaggcctccgggttttgctatgttaatgacattgtcctcgccatcctcgagctcctcaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gatgittaagcgggittctctacatagataitgaigtccaccaiggagaiggaggagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29.5%; Score 530.2; DB 20; Length 2019; 66.8%; Pred. No. 7.8e-138;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2019 BP; 510 A; 532 C; 528 G; 449 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Mismatches 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1; Page 55-58; 87pp; English.
                                                                                                                                                                                              Crane VC
                                                                                                                             (PION-) PIONEER HI-BRED INT INC
                                                                                                                                                                                                                                                                                                                                                                                            increased disease resistance
99WO-US07370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 66.8
Matches 805; Conservative
                                                                                                                                                                                              Bridgs SP,
                                                                                                                                                                                                                                                           WPI; 1999-611038/52.
P-PSDB; AAY28799.
   02-APR-1999;
                                                                                                                                                                                              Baldwin DA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   651
PAR A 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

э ;

```
1071 togaaatgttgcccgttgctggtgttatgagactgcagttgctgttggagtagagccgga 1130
                                                                                                                                                                                                                                                                                                                                                                                   cgacccaagtcctatggagaatttaaacacgcccaaagatatggagaggataaggaacac 1250
                                                                                                                                                                                                                                                                                                                                                                                                                                              1210 cgetecaagtaacatggagaataaaaacacaeggeateaattggatgacataaaateaaa 1269
            ggctttttataccacagaccgggtgatgacagtctcattccacaagtttggagattattt 789
                                                                                    tgttccactaaacgatggtatggacgatgaaagtttccgcagcttgtttagacctcttat 890
                                                                                                                                          950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          transgenic plant;
                                                            ccctgggacaggggacattcgtgatgttgggcactcaaagggtaaatattactccctgaa
                                                                                                                                                  1011 toggttottaagatottacaacgttoctotcatggtgttgggtggtgaagggtatactat
                                                                                                                                                                                                                                               cccaggaactggtcacataagagatgttggcgctgaaaaagggaaatactatgctctaaa
                                                                                                            tgttcccctggacgatggtattgatgatgagagctaccagtcgttgttcaagccaataat
                                                                                                                                    ccagaaggttatggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactc
                                                                                                                                                                                    cttaagtggtgatcggttgggttgcttcaacttatcagtcaagggtcacgctgattgcct
                                                                                                                                                                                                                                                                                                                                    caacaaactcccttacaatgagtattttgagtatttcggcccagattatacgcttcatgt
                                                                                                                                                                                                                                                                                                                                                          1150 tgacaagatgccacctaatgagtactatgagtattttggtccagattacactctacatgt
                                                                                                                                                                                                                                                                                                                                                                                                                                  1251 gttgetggaacaaetttegggaetaataeacgeaectagegteeagttteageacaeee
Nucleotide sequence of a histone deacetylase designated AtRPD3A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Histone deacetylase; AtRPD3A; RPD3; gene expression; trans9 HDA1; ethylene-responsive phenotype; hypocotyl elongation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               142..1647
/*tag= a
/product= "histone deacetylase AtRPD3A"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MIAC ) CANADA MIN AGRIC & AGRI-FOOD CANADA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualiflers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAF80350 standard; DNA; 1807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000CA-2316036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0383971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arabidopsis thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1311 accag 1315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1330 teetg 1334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CA2316036-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAF80350;
                                                                                                                                    891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7
              730
                                     771
                                                            190
                                                                                    831
                                                                                                            850
                                                                                                                                                                                                                                                                                                                                    1131
                                                                                                                                                                                                                                                                                                                                                                                   1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
AAF80350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Key
              염
                                                            d
                                                                                                                                                           g
                                     ò
                                                                                    ò
                                                                                                          q
                                                                                                                                   ò
                                                                                                                                                                                    ò
                                                                                                                                                                                                        g
                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

```
The present sequence encodes an Arabidopsis thallana histone deacetylase designated ARRD13A. The protein is homologous to yeast RPD3 and HDA1. The polynucleotide sequence is used in the method of the invention. The specification describes a method for regulating gene expression in transgenic plants. The method comprises modifying histones by introducing association with a gene of interest or with a nucleotide sequences which have regulatory elements in operative encoding histone deacetylase. The method is useful for regulating the particularly for repressing ethylene-responsive phenotypes (e.g. inhibition of hypocotyl elongation). The method is also useful sa a functional test for identifying a phenotype associated with perturbing a gene. The histone deacetylase genes are useful for altering the development of an organism.
                                                                                              Methods for regulating gene expression in transgenic plants, e.g. repressing ethylene-responsive phenotypes (e.g. inhibition of hypocotyl elongation), comprises introducing genes encoding histone deacetylase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      137 geggeatetetetgeegtegggaeeegaeggaegtaageggegagteagttaettetaeg 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agoogacgatoggagactactactacggtcaaggccacccgatgaagcctcaccggatcc 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gtatggeteatageetaateatteaetateaceteeaeegtegettagaaateagtegee 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tegetteegtttegeeggaatetatgggegateetteegetgeacgaaacetaaggegat 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tecgeageattacecetgaaacecageaagate----agattegeeaacttaageget 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      atattgatgtccaccatggagatggagtggaagaagcgttttacaccactgatagagtta 736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cettecetgecegegaacgigatetetgeegetteeacgeegaegaetaigtetettite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      272 gcatgacccatgccctcctcgctcactacggtctccttcagcatatgcaggttctcaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ctagectegetgaegecteegatateggeegatteeattegeeggagtatgttgaettee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ctggaggatctgttggtggctctgtcaagcttaaccacggcctctgcgatattgccatca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tcaatgtcggtgaggattgtcctgtcttcgacggactttttgatttttgccgtgcttccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                coggaggttctattggtgctgccgtcaaattaaacagacaggacgctgatatcgctatca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               557 attggggcggtgggcttcaccatgctaagaaagcgaggcttctgggttttgctatgtaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  617 acgacatcgtgctagggattctggagttgctcaagatgtttaagcgggttctctacatag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1807;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1807 BP; 472 A; 386 C; 464 G; 485 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches 396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 523.4; DB 27
Pred. No. 5.9e-136;
                   Ÿ
                   Μū
                                                                                                                                                                                    Claim 9; Fig 1A; 91pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29.1%;
65.9%;
                 Tian L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 777; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                             WPI; 2001-258457/27.
                 Brown D,
                                                                P-PSDB; AAB67811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
              Miki B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    677
õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

;;

Sat Mar

```
ttgagtatttcggcccagattatacgcttcatgtcgacccaagtcctatggagaatttaa 1216
                                                                                                                                                                                                                                                                                                                                                                                                                            acacgcccaaagatatggagaggataaggaacacgttgctggaacaactttcgggactaa 1276
                                                                                                                                                                                                                         tcaacttatcagtcaagggtcacgctgattgccttcggttcttaagatcttacaacgttc 1036
                                                                                                                                                                                                                                                                          ctctcatggtgttgggtggtgaagggtatactattcgaaatgttgcccgttgctggtgtt 1096
                                                                                                                                                                                                                                                                                                                           atgagactgcagttgctgttggagtagagccggacaacaaactcccttacaatgagtatt 1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                   attetegteagatgettgaagagattegeaatgaeetteteeacaatetetetetaagette 1285
                                                                                                                                                                          cagaggcagttgttcttcagtgtggtgctgactccttaagtggtgatcggttgggttgct 976
686 atattgatatccaccacggggatggagtggaggaggaggcattttatgctactgacagggtta 745
                                                                                                                                                atgagagctatcatctgttattcaagcccatcatggggaaagttatggaaattttccgac 925
                        atgaaagtttccgcagcttgtttagacctcttatccagaaggttatggaagtgtatcagc
                                                                                                                                                                                                 caggggctgtggtattgcaatgtggtgctgactccctatctggggatcggttaggttgct
                                                                                                                                                                                                                                                                                                                                                                                                  1166 atgaatactttggtccagactatacacttcacgttgctccaagtaacatggaaaataaga
                                                                         ttggcgctgaaaaagggaaatactatgctctaaatgttccactaaacgatggtatggacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chromatin associated protein; histone deacetylase gene 1; HD1; rice; transgenic plant; transcription regulation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rice histone deacetylase gene 1 (HD1) cDNA contig.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1277 tacacgcacctagcgtccagtttcagcacaccaccag 1315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (DUPO ) DU PONT DE NEMOURS & CO E I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA258259 standard; cDNA; 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-0092841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3..1484
/*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200004177-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-JUL-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oryza sativa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AA258259
                       737
                                               746
                                                                        197
                                                                                                908
                                                                                                                       857
                                                                                                                                                                       917
                                                                                                                                                                                                976
                                                                                                                                                                                                                        116
                                                                                                                                                                                                                                                                         1037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAZ58259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                               g
                                                                        ò
                                                                                              đ
                                                                                                                      ò
                                                                                                                                            a
                                                                                                                                                                      ò
                                                                                                                                                                                             a
                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                       ò
```

```
484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  245 ctcaccggatccgtatggctcatagcctaatcattcactatcacctccaccgtcgcttag 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                  see AAY5882B) of rice histone deacetylase 1 (HD1), a cohromatin associated protein. The contig was obtained from cDNA clones isolated from rice callus, 15-day old leaf and 15-day-old seedling deacetylases. The invention relates to isolated rice, soybean and wheat nucleic acid fragments encoding HD1. It also relates to the construction of a chimeric gene encoding HD1 it also relates to the construction of a chimeric gene encoding all or a portion of HD1, in sense or antisense orientation, where expression of the chimeric gene results in production of altered levels of HD1 in a ransformed host cell. The availability of nucleic acid sequences encoding (portions) of histone deacetylase proteins will facilitate studies of global transcriptional regulation in eukaryotic cells,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       185 gttacttctacgagccgacgatcggagactactactacggtcaaggccacccgatgaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 getaettetaegaegeggaggtggggaactaetaetaegggeagggggaecegatgaage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            305 aaatcagtcgccctagcctcgctgacgcctccgatatcggccgattccattcgccggagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 aggigetecaageeecageegegegegegegeetetgeegettecaegeegaeget
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       atgttgactteetegetteegettegeeggaatetatgggegateetteegetgeaegaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 acqtcgccttcctccgctcacgccggagacccagcaggaccagatc----cggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     acctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacggactttttgattttt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gccgtgcttccgccggaggttctattggtgctqccgtcaaattaaacagacaggacgctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gccagacctacgccgggggatccgtcggcggcgccgtcaagctcaac---cacggccacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          545 atategetateaattggggeggtgggetteaeeatgetaagaaaagegaggettetgggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 352 acategecateaaetgggeeggeggegtectecaceaegecaagaagtgegaggeetegggat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tttgctatgtaaacgacatcgtgctagggattctggagttgctcaagatgtttaagcggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               totgetacgtcaacgacatcgtcetcgccatcctcgagetcctcaaataccaccagegtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ttctctacatagatattgatgtccaccatggagatggagtggaagaagcgttttacacca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and will also provide mechanisms to control transcriptional gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28.8%; Score 518.8; DB 21; Length 1990; 66.5%; Pred. No. 1.2e-134;
                                                                                                                                                                                                                                                                                                                                                               The present sequence is that of a contig encoding a portion
                                                                                                                                                                               New nucleic acid fragment useful as probes and primers, for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1990 BP; 502 A; 494 C; 518 G; 476 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   =
=
=
=
=
=
=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches 382;
                                                                                                                                                                                                                                                                                            Claim 3; Page 24; 36pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 777; Conservative
   Vollmer SJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         regulation in plants.
                                                                   WPI; 2000-182439/16.
                                                                                                                                                                                                                     transforming plants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
                                                                                                     P-PSDB; AAY58828
   Cahoon RE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            485
D X X D D X X D D X X D D X X D D X X D D X X D D X X D D X X D X X D X X D X X D X X D X X D X X D X X D X X D X X D X D X X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X D X 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

ς;

Sat Mar

```
ggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttcggttcttaagat 1024
                                                                                                                                                                                                                                                                                                                                                           tttogggactaatacacgcacctagcgtccagtttcagcacacaccaccagtcaatcgag 1324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ||||| ||| ||| ||| || ||||||||||||| ||| || || || || || tttcaaaacttcgacatgctcctagcgtccaatttcaagagcgacccctgaggctgagc 1131
                                                                                                                                                                                                                                                                                                  aagtgtatcagccagaggcagttgttcttcagtgtggtgctgactccttaagtggtgatc 964
                                                                                                                              cttacaacgttoctctcatggtgttgggtggtgaagggtatactattcgaaatgttgcc
                                                                                                                                                                                                                                                                                                                                                                                                    tggagaatttaaacacgcccaaagatatggagaggataaggaacacgttgctggaacaac
                            acattogogatattgggcactcaaaggggaagtattactctctgaatgtcccgttggacg
                                                                                   acggtatcgacgacgaggctaccagtcgttgttcaagccgatcatggggaaggtgatgg
                                                                                                                                                                                     gttgctggtgttatgagactgcagttgctgttggagtagagccggacaacaactccctt
                                                                                                                                                                                                                                                                                                                                                                                                                               tggagaacaaaaacacacgccagcagttggatgatataagatcaagacttcttgataatc
785 acataagagatgttggcgctgaaaaagggaaatactatgctctaaatgttccactaaacg
                                                        atggtatggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggttatgg
                                                                                                                                                                                                                                                          cetteaatgteeegetgttgetgettggtggtggtggtggtataceataagaaatgttgege
                                                                                                                                                                                                                                                                                                                                             acaalgagtattttgagtatttcggcccagattatacgcttcatgtcgacccaagtccta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Soybean histone deacetylase gene 1 (HD1) cDNA clone srl.pk0023.dl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chromatin associated protein; histone deacetylase gene 1; HD1; soybean; transgenic plant; transcription regulation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ttttggacgagccggaagatgacatgga 1352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tacctgagcaagatgaagaccaagagga 1159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
130..1551
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (DUPO ) DU PONT DE NEMOURS & CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA258260 standard; cDNA; 1805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-0092841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99WO-US15807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-MAY-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vollmer SJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2000-182439/16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200004177-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-JUL-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Glycine max.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cahoon RE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AA258260;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6
                                                                                                                                                                                                                                                                                                                                            1145
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1132
                                                        845
                                                                                                             905
                                                                                                                                                                      965
                                                                                                                                                                                               772
                                                                                                                                                                                                                                                         832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AA258260
ID AA25
                                                                                 9
                                                                                                             ò
                                                                                                                                       a
                                                                                                                                                                      ò
                                                                                                                                                                                             d
                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ô
                         g
                                                      ò
```

```
137 goggoatetetetgeegtegggaeeeggaeggaegtaageggegagteagttaettetaeg 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  197 agccgacgatcggagactactactacggtcaaggccacccgatgaagcctcaccggatcc 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                      deacetylases. The invention relates to isolated rice, soybean and wheat nucleic acid fragments encoding HDI. It also relates to the construction of a chimeric gene encoding all or a portion of HDI, in sense or antisense orientation, where expression of the chimeric gene results in production of altered levels of HDI in a
                                                                                                                                                                                                                                                                                                                           transformed host cell. The availability of nucleic acid sequences encoding (portions) of histone deacetylase proteins will facilitate studies of global transcriptional regulation in eukaryotic cells, and will also provide mechanisms to control transcriptional gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              140 gagggaactcccttccatcagggtcagatggtgtgaagagaaaaggtttcatatttctatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gtatggeteatageetaateatteaetateaeeteeaeegtegettagaaateagtegee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          320 ctatggctgctaaagatagggacctttgcaagttccatgctgatgattatgtggcctttc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         atattgatgtccaccatggagatggagtggaaggagggttttacaccactgatagagtta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         soybean histone deacetylase 1 (HD1, see AAY58829), a chromatin associated protein. The CDNA clone was isolated from a soybean root cDNA library on the basis of homology to other plant histone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gaatgacacatgctcttttagcccactatggattgcttcaacacatgcaggttctgaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ctagectegetgaegectengatateggeegatteeattegeeggagtatgttgaettee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tegetteegtttegeeggaatetatgggegateetteegetgeacgaaacetaaggegat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             380 tgagaggcatcacccctgaaacgcagcaagatcaat----tgagacagctgaagaggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tcaatgtcggtgaggattgtcctgtcttcgacggactttttgatttttgccgtgcttccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        caggaggttetgttggtggtgetetaaagttgaaceatggagtatgtgatattgeaataa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         attgggggcggtgggcttcaccatgctaagaaaagcgaggcttctggggttttgctatgtaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              554 attgggctggtggtctacatcatgcaaagaagtgtgaggcttctgggttttgctatgtta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      617 acgacategtgetagggattetggagttgeteaagatgtttaagegggttetetacatag
                                                                                                                                           present sequence is that of cDNA clone srl.pk0023.dl encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27.6%; Score 497.2; DB 21; Length 1805; 63.6%; Pred. No. 1.2e-128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6;
                                        for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                      New nucleic acid fragment useful as probes and primers, transforming plants
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1805 BP; 524 A; 309 C; 436 G; 534 T; 2 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches 438;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         _
=
=
                                                                                                  Claim 3; Page 26-27; 36pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 776; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                 regulation in plants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
P-PSDB; AAY58829.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              734
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
```

496

616

ï

```
metalloprotease thrombospondin (METH) proteins METH1 and METH2
metalloprotease thrombospondin (METH) proteins METH1 and METH2
respectively. METH1 and METH2 have been found to be potent inhibitors of
angiogenesis both in vitro and in vivo. They can be used for treating
cancer and other disorders related to angiogenesis including abnormal
wound healing, inflammation, rheumatoid arthitis, psoriasis,
endometrial bleeding disorders, diabetic retinopathy, some forms of
macula degeneration, haemangiomas, and arterial-venous malformations.
They may be useful in treating deficiencies or disorders of the immune
system, by activating or inhibiting the proliferation, differentiation,
or mobilisation (chemotaxis) of immune cells. The etiology of these
immune deficiencies or disorders may be genetic, somatic, such as
cancer or some autoimmune disorders, acquired (e.g. by chemotherapy or
toxins), or infectious. They can also be used to treat inflammatory
conditions, both chronic and acute conditions. The products can also be
used for detection and diagnosis. AAS132002 to AAX49501 to
AAX49511 represent sequences given in the exemplification of the present
                                                                                      New isolated metalloprotease thrombospondin polypeptides, useful for treating hyperproliferative disorders, cancers or autoimmune disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420 gtatatcaaatttctacggtcaataagaccagataacatg-----tctgagtatagtaa 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cagttacttctacgagccgacgatcggagactactactacggtcaaggccacccgatgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gecteaceggatecgtatggeteatageetaateatteaetateaeetecaeegtegett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300 gecteatagaateegeatgaeeeataaettgetgttaaattatggettatacagaaaat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          agaaatcagtcgcctagcctcgctgacgcctccgatatcggccgattccattcgccgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360 ggaaatatataggccccataaagccactgccgaagaaatgacaaaatatcacagtgatga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttccgctgcacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        423 aaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacggactttttgattt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      474 gcagatgcatatatttaatgttggagaagattgtccagcgtttgatggactctttgagtt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     483 tigccgigcticcigccggaggitctatiggigctgccgicaaaitaaacagacaggacgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                534 ttgtcagctctcaactggcggttcagttgctggagctgtgaagttaaaaccgacaacagac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           543 tgatatcgctatcaattggggggggggtgggcttcaccatgctaagaaaagcgaggcttctgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gttttgctatgtaaaacgacatcgtgctagggattctggagttgctcaagatgtttaagcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 24.7%; Score 444.6; DB 20; Length 1985; Best Local Similarity 61.4%; Pred. No. 6.2e-114; Matches 733; Conservative 0; Mismatches 454; Indels 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1985 BP; 626 A; 360 C; 454 G; 545 T; 0 other;
Ruben SM;
                                                                                                                                                                                Disclosure; Page 444-446; 457pp; English.
Iruela-Arispe L, Hastings GA,
                                        WPI; 1999-590684/50.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
```

663 ggttetetacatagatattgatgteeaceatggagatggagtggaaggaagegttttaeae 722

ò

1;

```
METH: metalloprotease; thrombospondin; angiogenesis inhibition; cancer therapy; benign tumour; ocular angiogenic disease; rheumatoid arthritis; psoriasis; wound healing; endometriosis; vasculogenesis; granulation; hypertrophic scar; nonunion fracture; scleroderma, trachoma; vascular adhesion; myocardial angiogenesis; coronary collateral; cerebral collateral; arteriovenous malformation; ischaemic limb angiogenesis; osler-Webber syndrome; wound granulation; plaque neovascularisation; telangiectasia; haemophiliac joint; EST; angiofibroma; fibromuscular dysplasia; expressed sequence tag; crohn's disease; atherosclerosis; birth control; ss.
                                                                                                                                                                                                                                                                                                                                                                                        ggagatgtatcaacctagtgctgtggtattacagtgtggtgcagactcattatctggtga 1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1134 togatgttggacatatgagactgcagttgcccttgattgtgagattcccaatgagttgcc 1193
                                                                                                                                       842
atcttacaacgttcctctcatggtgttgggtggtgagggtatactattcgaaatgttgc
                                                                                                                                                                                                                                                                                                                                                                    tcggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttcggttcttaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aacttttaacttaccattactgatgcttggaggaggtggctacacaatccgtaatgttgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cactgatagagttatgactgtttctttccacaaatttggggactttttcccaggaactgg
                                                                                                aacagatcgtgtaatgacggtatcattccataaatatggggaatactttcctggcacagg
                                                                                                                                     783 tcacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgttccactaaa
                                                                                                                                                                             agacttgagggatattggtgctggaaaaggcaaatactatgctgtcaattttccaatgtg
                                                                                                                                                                                                                843 cgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggttat
                                                                                                                                                                                                                                                                                             ggaagtgtatcagccagaggcagttgttcttcagtgtqtqqtqctqactccttaaqtqqtqa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccgttgctggtgttatgagactgcagttgctgttggagtagagccggacaacaaactccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ttacaatgagtattttgagtatttcggcccagattatacgcttcatgtcgacccaagtcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1194 atataatgattactttgagtattttggaccagacttcaaactgcatattagtccttcaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1203 tatggagaatttaaacacgcccaaagatatggaggagaaaaggaacacgttgctggaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1263 actttcgggactaatacacgcacctagcgtccagtttcagcacaccaccag 1315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1314 tttgcgcatgttacctcatgcacctggtgtccagatgcaagctattccagaag 1366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAC90323 standard; DNA; 1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-MAY-2000; 2000WO-US14462.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                U31814 cDNA clone.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200071577-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAC90323;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1143
                                                                                                                                                                                                                                                    894
                                                                                                                                                                                                                                                                                         903
                                                                                                                                                                                                                                                                                                                            954
                                                                                                                                                                                                                                                                                                                                                                    963
                                                                                                                                                                                                                                                                                                                                                                                                                                               1023
                     g
                                                                                                                                                                       a
                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                              g
                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

```
The present invention relates to human METH1 and METH2, (ME for metalloprotease and TH for thrombospondin; see AAB50002 and AAB50003). The present sequence is an expressed sequence tay (EST) for METH. METH can be used for inhibiting aplogenesis in an individual, and for treating cancer, benign tumours, an ocular angiogenic disease, rheumatoid arthritis, psoriasis, delayed wound healing, endometriosis, vasculogenesis, granulations, hypertrophic scars, nonunion fractures, scleroderma, trachoma, vascular adhesions, myocardial angiogenesis, cerebral collaterals, arteriovenous malformations,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ischemic limb angiogenesis, Osler-Webber syndrome, plaque neovascularisation, telangiectasia, haemophiliac johnts, angiofilbroma, fibromuscular dysplasia, wound granulation, Crohn's disease or atherosclerosis. METH can also be used in birth control. METH can also be used in diagnostic methods for the prognosis of cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                     METHI and METH2 polynucleotides and encoded polypeptides, used to inhibit angiogensis in the treatment of disorders such as cancer, rheumatoid arthritis and psorlasis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cagttacttctacgageegaegateggagaetactactaegageeaaggeeaeeegatgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240 ctgctactactacgacggtgatattggaaattattattatggacagggtcatcccatgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           geeteaccagatecgtatggeteatageetaateatteaetateaceteeacegtegett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300 geeteatagaateegeatgaeeeataaettgetgttaaattatggettataeagaaaat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              303 agaaatcagtcgccctagcctcgctgacgcctccgatatcggccgattccattcgccgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360 ggaaatatataggccccataaagcccactgccgaagaaatgacaaaatatcacagtgatga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttccgctgcacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     423 aaacctaaggegatteaatgteggtgaggattgteetgtettegaeggaetttttgattt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Trulli SH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ouery Match 24.7%; Score 444.6; DB 22; Length 1985; Best Local Similarity 61.4%; Pred. No. 6.2e-114; Matches 733; Conservative 0; Mismatches 454; Indels 6:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1985 BP; 626 A; 360 C; 454 G; 545 T; 0 other;
                                                                                                                                                                                                                                                                                                                     Ruben SM, Jonak ZL,
                                                                                                                                                        BETH ISRAEL DEACONESS MEDICAL CENT. IRUELA-ARISPE L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 14; Pages 745-746; 768pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SMITHKLINE BEECHAM CORP.
                                                                                                                                                                                                                                                                                                                     Hastings GA,
              99US-0144882.
99US-0147823.
99US-0373658.
99US-0171503.
                                                                                                                         HUMAN GENOME SCI INC
                                                                                     2000US-0183792
                                                                                                                                                                                                                                                                                                                                       Terrett JA;
                                                                                                                                                                                                           RUBEN S M.
JONAK Z L.
TRULLI S H.
FORNWALD J A.
                                                                                                                                                                                             HASTINGS G A.
                                                                                                                                                                                                                                                                                                                                                                    WPI; 2001-025136/03.
                                                                                                                                                                                                                                                                                                                     Iruela-Arispe L,
                                                                                     22-FEB-2000;
                                                                                                                                                                                                                                                                                                                                       Fornwald JA,
                20-JUL-1999;
10-AUG-1999;
                                                 13-AUG-1999;
22-DEC-1999;
                                                                                                                                          (SMIK)
(BETH-)
                                                                                                                                                                           (IRUE/)
(HAST/)
                                                                                                                                                                                                                              (JONA/)
(TRUL/)
                                                                                                                         (HUMA-)
                                                                                                                                                                                                               (RUBE/)
                                                                                                                                                                                                                                                                  FORN/)
                                                                                                                                                                                                                                                                                 (TERR/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   363
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

;

Mar

Sat

WO200071703-A2

30-NOV-2000

Homo sapiens

```
1083 ccgttgctggtgttatgagactgcagttgctgttggagtagagccggacaacaactccc 1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1203 tatggagaatttaaacacgcccaaagatatggagagataaggaacacgttgctggaaca 1262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             954 ggagatgtatcaacctagtgctgtggtattacagtgtggtgcagactcattatctggtga 1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1014 tagactgggttgtttcaatctaacagtcaaaggtcatgctaaatgtgtagaagttgtaaa 1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1074 aacttttaacttaccattactgatgcttggaggaggtggctacacaatccgtaatgttgc 1133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1134 tcgatgttggacatatgagactgcagttgcccttgattgtgagattcccaatgagttgcc 1193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ttacaatgagtattttgagtatttcggcccagattatacgcttcatgtcgacccaagtcc 1202
                                                                                                                                                                                                                                               773
                                                                                                                        653
                                                                                                                                                       662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Histone deacetylase; HDAC-1; HDAC-2; HDAC-4; HDAC-5; HDAC-C; HDAC-D; cell cycle; tumourigenesis; cancer; inhibitor; antisense; gene therapy; ds.
                                                                                                                                                                                                                                                                         594 tgatatggctgttaattgggctggaggattacatcatgctaagaaatacgaagcatcagg
                                                                                                                                                                                  654 attotgttacgttaatgatattgtgcttgccatccttgaattactaaagtatcatcagag
                                                                                                                                                                                                                                  ggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactccttaagtggtga
gcagatgcatatatttaatgttggagaagattgtccagcgtttgatggactctttgagtt
                              tigecgigeticegeeggaggitetatiggigetgeegicaaattaaacagacaggaege
                                                tgatatcgctatcaattggggcggtgggcttcaccatgctaagaaaagcgaggcttctgg
                                                                                                                                                       gttttgctatgtaaacgacatcgtgctagggattctggagttgctcaagatgtttaagcg
                                                                                                                                                                                                                 ggttctctacatagatattgatgtccaccatggagatggagtggaagaagcgttttacac
                                                                                                                                                                                                                                                                                                                                        783 tcacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgttccactaaa
                                                                                                                                                                                                                                                                                                                                                      cgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggttat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         atcttacaacgttcctctcatggtgttgggtggtgaagggtatactattcgaaatgttgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1263 actttcgggactaatacacgcacctagcgtccagtttcagcacaccaccag 1315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1314 tttgcgcatgttacctcatgcacctggtgtccagatgcaagctattccagaag 1366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human histone deacetylase HDAC-2 coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAC89555 standard; DNA; 1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAC89555;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1023
                                                                                                                                                                                                                 663
                                                                                                                                                   603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAC89555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                   qq
                                                                                                                                                   ò
                                                                                                                                                                                å
                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                            ò
                                                                                        ò
```

```
enzyme activity. These inhibitors are useful for treating cancers and for identifying which histone deacetylase is involved in a neoplasia.
                                                                                                                                                                                                                                                                                                                                                                                                      The present invention provides inhibitors of histone deacetylase enzymes such as RDAC-1, HDAC-2, HDAC-4, HDAC-5, HDAC-6, HDAC-0, and HDAC-0. These inhibitors may be antisenes strands or they may be compounds identified by contacting the enzyme with the compound and measuring the resulting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 geeteaceggateegtatggeteatageetaateatteaetateaceteeacegtegett 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300 gootcatagaateegeatgaeeeataaettgetgttaaattatggettatacagaaaaat 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360 ggaaatatataggccccataaagccactgccgaagaaatgacaaaatatcacagtgatga 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120 gtatatcaaatttotacqqtcaataaqaccaqataacatq-----totqaqtataqtaa 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         423 aaacctaaaggogattcaatgtoggtgaggattgtoctgtottogacggactttttgattt 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            654 attotgttacgttaatgatattgtgcttgccatcottgaattactaaagtatcatcagag 713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6; Gaps
                                                                                                                                                                                                                                                                                                                    of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cagttacttctacgagccgacgatcggagactactactacggtcaaggccacccgatgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              agaaatcagtcgccctagcctcgctgacgcctccgatatcggccgattccattcgccgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    \mathfrak{g}tat\mathfrak{g}t\mathfrak{t}ttccttcgcttccg\mathfrak{g}tttcgccg\mathfrak{g}aa\mathfrak{g}tctat\mathfrak{g}ggc\mathfrak{g}atccttcc\mathfrak{g}ct\mathfrak{g}cac\mathfrak{g}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            534 tigicageteteaaciggeggiteagitgeigaageigigaagitaaacegacaacagae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tgatatcgctatcaattggggcggtgggcttcaccatgctaagaaaagcgaggcttctgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             603 gttttgctatgtaaacgacatcgtgctagggattctggagttgctcaagatgtttaagcg
                                                                                                                                                                                                                                                                                                Antisense oligonucleotide that inhibits expression of a histone deacetylase, useful for treating and/or alleviating the symptoms neoplasia, or for inhibiting neoplastic cell growth in an animal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 444.6; DB 22; Length 1985;
Pred. No. 6.2e-114;
0; Mismatches 454; Indels 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1985 BP; 626 A; 360 C; 454 G; 545 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page 53; 125pp; English.
                                                                                                                                                                                                            Besterman JM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 24.7%;
Best Local Similarity 61.4%;
Matches 733; Conservative (
                                                                                                    03-MAY-2000; 2000WO-IB01252.
                                                                                                                                       99US-0132287
                                                                                                                                                                                                                                              WPI; 2001-016407/02
                                                                                                                                                                         (METH-) METHYLGENE
                                                                                                                                                                                                            Macleod AR, Li Z,
                                                                                                                                                                                                                                                                P-PSDB; AAB49955
                                                                                                                                     03-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                483
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

ï

```
Maize histone deacetylase; family 1, ZmHD1; promoter regulator; promoter; RNA polymerase II; transcription; plant transformation; heterochromatin; disease resistance; chromatin assembly; gene activity; toxin screening;
                                                                                                                                                                                                                                                                                                                               1082
                                                                                                                                                                                                                                                                                                                                                                                                              1193
                                                                                                                                                                                                                                                                                       ccgttgctggtgttatgagactgcagttgctgttggagtagagccggacaacaactccc 1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ggagatgtatcaacctagtgctgtggtattacagtgtggtgcagactcattatctggtga 1013
 ggttctctacatagatattgatgtccaccatggagatggagtggaagaggttttacac
                                                                                                                                                                                       894 tgatggtatagatgatgagtcatatgggcagatatttaagcctattatctcaaaggtgat
                                                                   tcacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgttccactaaa
                                                                                                                                   834 agactigagggatatiggtgctggaaaaggcaaatactatgctgtcaattitccaatgtg
                                                                                                                                                                                                                   tcgatgttggacatatgagactgcagttgcccttgattgtgagattcccaatgagttgcc
                                                                                                                                                                                                                                                                                                                                                                                                                                      ttacaatgagtattttgagtatttcggcccagattatacgcttcatgtcgacccaagtcc
                         agictiatatattgatatagatattcatcatggtgatggtgttgaagaagctttttatac
                                                      cactgatagagttatgactgtttctttccacaaatttggggactttttcccaggaactgg
                                                                                                                                                               cgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggttat
                                                                                                                                                                                                                                                                        teggitiggitigetteaacttateagteaagggiteacgetgatigeetteggitettaag
                                                                                                                                                                                                                                                                                                                             atcttacaacgttcctctcatggtgttgggtggtgaagggtatactattcgaaatgttgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1194 atataatgattactttgagtattttggaccagacttcaaactgcatattagtccttcaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tatggagaatttaaaccgcccaaagatatggagaggataaggaacacgttgctggaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1263 actttcgggactaatacacgcacctagcgtccagttcagcacaccaccag 1315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /*tag= a
/product= "Maize histone deacetylase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       pathogenicity; disease response promoter; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
29..1084
                                                                                                                                                                                                                                                                                                                                                                                                ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Maize histone deacetylase-2 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAX90838 standard; DNA; 1475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99WO-US07370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            W09951731-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13
                                                                                                                                                                                                                                                                                                                             1023
                                                                                                                                                                                                                                                                                                                                                      1074
                                                                                                                                                                                                                                                                                                                                                                                 1083
                                                                                                                                                                                                                                                                                                                                                                                                          1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1203
 663
                            714
                                                                                                         783
                                                                                                                                                               843
                                                                                                                                                                                                                    903
                                                                                                                                                                                                                                              954
                                                                                                                                                                                                                                                                        696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAX90838
                          셤
                                                                             g
ò
                                                     ò
                                                                                                         ò
                                                                                                                                 g
                                                                                                                                                               ò
                                                                                                                                                                                     q
                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
```

```
The present sequence encodes a maize histone deacetylase. This DNA belongs to family 1, ZmHD1 and appears to be requiator of promoters for RNA polymerase II, for transcription of genes. The nucleotide sequence can be used to transform plants and increase disease resistance by altering the levels of heterochromatin, altering chromatin assembly, and gene activity of the transformed plants. Additionally, compositions find use in screening for toxins that affect pathogenicity and in determining which disease response promoters are regulated by histone deacetylase.
                                                                                                                                for producing transgenic plants which have
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           caagggtcacgctgattgccttcggttcttaagatcttacaacgttcctctcatggtgtt 1049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .050 gggtggtgaagggtatactattcgaaatgttgcccgttgctggtgttatgagactgcagt 1109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    occagattatacgetteatgtegaceeaagteetatggagaatttaaacaegeeeaaaga 1229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        633
                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                    570 gcttcaccatgctaagaaaagcgaggcttctgggtttgctatgtaaacgacatcgtgct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 160 geceeaccaccaccaagaagaagagcetecgggttetgetacgteaacgacategteet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           630 agggattetggagttgeteaagatgtttaagegggttetetaeatagatattgatgteea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ccatggagatggagtggaagaagcgttttacaccactgatagagttatgactgtttcttt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ccacaaatttggggacttttcccaggaactggtcacataagagatgttggcgctgaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agggaaatactatgctctaaatgttccactaaacgatggtatggacgatgaaagtttccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 460 tggtctgtttcaatgcatcattaagaaagttatggaggtttatcagccagacgtggttgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     640 aggtggtggaggttacaccatcagaaatgttgcacgetgetggtgctacgagaccgcagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tgctgttggagtagagccggacaacaaatcccttacaatgagtattttgagtatttcgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ·,
                                                                                                                                                                                                                                                                                                                                                                                Length 1475;
                                                                                                                                                                                                                                                                                                                                                                             Score 441.4; DB 20; Length
Pred. No. 4.2e-113;
0; Mismatches 226; Indels
                                                                                                                                                                                                                                                                                                                                  Sequence 1475 BP; 388 A; 342 C; 376 G; 369 T; 0 other;
                                                                                                                                                                       Claim 1; Page 51-53; 87pp; English.
                                                         Š
                           (PION-) PIONEER HI-BRED INT INC.
                                                         Crane
                                                                                                                                             increased disease resistance
                                                                                                                                                                                                                                                                                                                                                                             Ouery Match 24.5%;
Best Local Similarity 71.9%;
Matches 577; Conservative (
                                                                                                                              nseq
98US-0080563
                                                         Briggs SP,
                                                                                                                              deacetylase genes,
                                                                                    WPI; 1999-611038/52
                                                                                                  P-PSDB; AAY28798
03-APR-1998;
                                                       Baldwin DA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        700
                                                                                                                                307
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              òλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    õ
```

ö

g

g ò

ij

```
The present cDNA sequence encodes a novel histone deacetylase (HDX)

Co polypeptide, designated HDI. The HDX polypeptides are capable of

modulating proliferation survival and differentiation of cells. The

Co modulating proliferation survival and differentiation of cells. The

proteins are able to alter chromatin structure by deacetylating histones

concluded as H3 or H4. They have the ability to modulate cell growth by

influencing cell cycle progression or to modulate gene transcription. The

concluded control or proliferative disorders or spermatogenesis,

concluded to treat tumours or the differentiation of progenitor cells.

Co steogenesis, chondrogenesis or the differentiation of progenitor cells.

Consteogenesis, chondrogenesis, degenerative disorders, or for repair of

costeogenesis, noreasing bone density, liver repair subsequent to a partial

Control increasing bone density, liver repair subsequent to a partial

control of the control of lung tissue in the treatment of

hepatectomy, to promote regeneration of lung tissue in the treatment of

comphysema, or for inducing tolerance in autoimmune diseases, and

cransplant recipients. HDX inhibitors can be used as anti-fungal agents,

preservatives in foodstuff, feed supplements for promoting weight gain in

livestock, disinfectants, insecticides or defoliants. The products can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Histone deacetylase gene; HDx; HDI; HDx polypeptide; deacetylation; H3; H4; cell differentiation; chromatin structure; cell cycle progression; proliferative disorder; fibroproliferative disorder; succoproliferative disorder; autoimmune disease; HDx inhibitor; ss.
                                                                                                                                                                  1290 egteccagiticageacaccaceacteategagititggaegageeggaagaigaeai 1349
                                                                                                                                                                                                                                                 880 cactcaattccatgacagaccgtcagacctgaagctccagaggagaaagaggacat 939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New isolated histone deacetylase polypeptide(s) and genes - used to develop products for modulating the proliferation, survival or differentiation of cells, e.g. for treating tumours.
1230 tatggagagataaggaacacgttgctggaacaactttcgggactaatacacgcacctag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cDNA encoding a histone deacetylase (HDx) protein, designated HDI.
                                                                               820 cttggagaacataaagaacatgatattggagaacctgtcaaagatagaacatgttcccag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Taunton J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 27; Pages 112-114; 159pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Schreiber
                                                                                                                                                                                                                                                                                                                                     1350 ggagacaagaccaaaacctcgca 1372
                                                                                                                                                                                                                                                                                                                                                                                     AAT86371 standard; cDNA; 1449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97WO-US05275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96US-0624735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Jamison TF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (HARD ) HARVARD COLLEGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1997-489651/45.
P-PSDB; AAW29324.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9735990-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-MAR-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16-APR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hassig CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAT86371;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAT86371
```

```
aagtggtgatcggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttcg 1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1014 gttettaagatettaeaaegtteeteteatggtgttgggtggtgaagggtataetatteg 1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .074 aaatgttgeeegttgetggtgttatgagaetgeagttgetgttggagtagageeggaeaa 1133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  857
                                                                                                                                                                                                                                                                      354 ttogocogaatatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttc 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       144 cegaaaaatggaaatetategeeeteacaaageeaatgetgaggagatgaeeaagtaeea 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            438 ggcatctggcttctgttacgtcaatgatatcgtcttggccatcctggaactgctaaagta 497
                                                                                                                                                                       174 geggegagteagttaettetaegageegaegateggagetaetaetaetaeggteaaggeea 233
                                                                                                                                                                                                                                                ecegatgaageeteaceggateegtatggeteatageetaateatteactateacetecea 293
                                                                                                                                 6; Gaps
                                                                                                                                                                                                             24 gaggaaagtetgttactactacgacgggggatgttggaaattactattatggacaaggeca
                                                                                                                                                                                                                                                                                                                                cegtegettagaaateagtegeeetageetegetgaegeeteegatateggeeegatteea
                                                                                                                                                                                                                                                                                                                                                                                                                                             204 cagegatgactacattaaattettgegeteeateegteeagataacatgteggagtacag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cgctgcacgaaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacggact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ....aagcagatgcagagattcaacgttggtgaggactgtccagtattcgatggcct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                474 ttttgatttttgccgtgcttccgccggaggttctattggtgctgccgtcaaattaaacag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         318 gtttgagttctgtcagttgtctactggtggttctgtggcaagtgctgtgaaacttaataa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               534 acaggacgetgatategetateaattggggeggtgggetteaeeatgetaagaaagega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ggcttctgggttttgctatgtaaacgacatcgtgctaggggattctggagttgctcaagat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    498 teaceagagggtgetgtacattgacattgatatteaceatggtgaeggegtggaagagge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             558 ettetacaccacggaccgggtcatgactgtgtcetttcataagtatggagagtacttccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aggaactggtcacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              618 aggaactggggacctacgggatatcggggctggcaaaggcaagtattatgctgttaacta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      834 tecaetaaaacgatggtatggacgatgaaagttteegeagettgtttagaeetettateea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             678 cccqctccqaqacqqqattqatqacqaqtcctatqaqqqccattttcaagccggtcatgtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 894 gaaggttatggaagtgtatcagccagaggcagttgttcttcagtggtggtggtgactcctt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       738 caaagtaatggagatgttccagcctagtgcggtggtcttacagtgtggctcagactccct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  atttgtcaagagctttaacctgcctatgctgatgctgggaggcggtggttacaccattcg
                                                                                    Score 438.2; DB 18; Length 1449;
Pred. No. 3.3e-112;
0; Mismatches 418; Indels 6:
                                    Sequence 1449 BP; 406 A; 329 C; 396 G; 318 T; 0 other;
also be used in cell cultures
                                                                                        Query Match 24.3%;
Best Local Similarity 62.4%;
Matches 705; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        594
                                                                                                                                                                                                                                                                                                                              294
SXC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                         à
                                                                                                                                                                                                           음
                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           such as HDAC-1, HDAC-2, HDAC-4, HDAC-5, HDAC-6 and HDAC-D. These inhibitors may be antisense strands or they may be compounds identified by contacting the enzyme with the compound and measuring the resulting enzyme activity. These inhibitors are useful for treating cancers and for identifying which histone deacetylase is involved in a neoplasia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention provides inhibitors of histone deacetylase enzymes
1134 caaactcccttacaatgagtattttgagtatttcggcccagattatacgcttcatgtcga 1193
                                                             134 gaggaaagtetgttaetaetaegaeggggatgttggaaattaetattatggaeaaggeea 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cccaatgaagcctcaccgaatccgcatgactcataatttgctgctcaactatggtctcta 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           294 ccgtcgcttagaaatcagtcgcctagcctcgctgacgcctccgatatcggccgattcca 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   geggegagteagttacttetacgageegaegateggagaetactaetaeggteaaggeea 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  eccgatgaageeteaceggateegtatggeteatageetaateatteaetateaeeteea 293
                                                                                                                                                                                                                                                                                                                                                        Histone deacetylase; HDAC-1; HDAC-2; HDAC-3; HDAC-4; HDAC-5; HDAC-C; HDAC-D; cell cycle; tumourigenesis; cancer; inhibitor; antisense;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       jo .
                Antisense oligonucleotide that inhibits expression of a histone deacetylase, useful for treating and/or alleviating the symptoms neoplasia, or for inhibiting neoplastic cell growth in an animal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 22; Length 1611;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                          gctggaacaactttcgggactaatacacgcacctagcgtccagtttcag 1302
                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1611 BP; 428 A; 385 C; 440 G; 358 T; 0 other;
                                                                                                                                                                                                                                                                                                                            Human histone deacetylase HDAC-1 coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches 419;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24.3%; Score 436.6; DB 22 62.4%; Pred. No. 9.6e-112;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Page 50-51; 125pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                   BP
                                                                                                                                                                                                                                   DNA; 1611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-MAY-2000; 2000WO-IB01252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0132287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best_Local Similarity 62.4
Matches 704; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (METH-) METHYLGENE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-016407/02.
P-PSDB; AAB49954.
                                                                                                                                                                                                                                  AAC89554 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         L1 Z,
                                                                                                                                                                                                                                                                                                                                                                                       gene therapy; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200071703-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Macleod AR,
                                                                                                                                                                                                                                                                                            08-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-NOV-2000
                                                                                                                                                                                                                                                               AAC89554;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                     15
                                                           1194
                                                                                                                         1254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            194
                                                                                                                                                                                                                     AAC89554
                                                                                                                                                                                                     RESULT
                                                                                        QQ
                                                                                                                         ò
                                                                                                                                                    8
                                                                                                                                                                                                                                                                 ò
                             a
                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
```

```
1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aagtggtgatcggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttcg 1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1194 occaagtoctatggagaatttaaacacgcccaaagatatggaggaggataaggaacacgtt 1253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1134 caaactecettaeaatgagtattttgagtattteggeeeagattataegetteatgtega 1193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1148 teetteeaatatgaetaaeeagaacaegaatgagtaeetggagaagateaaaeagegaet 1207
                                                                                                                                               427
                                                                                                                                                                                                                       487
                                                                                                                                                                                                                                                                                                                                653
                                                                                                                                                                                                                                                          593
                                                                                                                                                                                                                                                                                            547
                                                                                                                                                                                                                                                                                                                                                                                                       713
                                                                                                                                                                                                                                                                                                                                                                                                                                         667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         196
254 ccgaaaaatggaaatctatcgccctcacaaagccaatgctgaggagatgaccaagtacca 313
                                                                                                                                                                                                                                                                                                                                                   834 tecaetaaacgatggtatggacgatgaaagttteegeagettgtttagaeetettateea 893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cagogatgactacattaaattettgegeteeateegteeagataacatgteggagtacag
                                                                                                                              428 gittgagitetgicagitgietaeiggiggiteigiggeaagigeigigaaaeitaataa
                                                                                                                                                                                                                                                                                                                                ggettetgggttttgetatgtaaacgacategtgetagggattetggagttgeteaagat
                                                                                                                                                                                                                                                                                                                                                                                                     774 aggaactggtcacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          908 atctggggatcggttaggttgcttcaatctaactatcaaaggacacgccaagtgtgtgga
                                    354 ttcgccggagtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttc
                                                                                                              cgetgeacgaaacetaaggegatteaatgteggtgaaggattyteetgtettegaeggaet
                                                                                                                                                                                   474 ttttgatttttgccgtgcttccgccggaggttctattggtgctgccgtcaaattaaacag
                                                                                                                                                                                                                                                        534 acaggacgetgatategetateaattggggeggtgggetteaceatgetaagaaaagega
                                                                                                                                                                                                                                                                                            488 gcagcagacggacatcgctgtgaattgggctgggggcctgcaccatgcaaagaagtccga
                                                                                                                                                                                                                                                                                                                                                                                                                                         608 tcaccagagggtgctgtacattgacattgatattcaccatggtgacggcgtggaagaggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gttttacaccactgatagagttatgactgtttctttccacaaatttggggactttttccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        728 aggaactggggacctacgggatatcggggctggcaaaggcaagtattatgctgttaacta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             788 cccgctccgagacgggattgatgacgagtcctatgaggccattttcaagccggtcatgtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           968 atttgtcaagagetttaacetgeetatgetgetggaggaggeggtggttacaecatteg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1074 aaatgttgcccgttgctggtgttatgagactgcagttgctgttggagtagagccggacaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1028 taacgttgcccqqtqctgqacatatqaqacaqctqtqqccctgqatacqqaqatccctaa
                                                                                                                                                                                                      <del>-</del>
=
=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               getggaacaactttcgggactaatacacgcacctagcgtccagtttcag 1302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gtttgagaaccttagaatgctgccgcacgcacctggggtccaaatgcag 1256
                                                                                                                                                                                                                                                                               1254
                                                                                                          414
                                                                                                                                                                                                                                                                                                                                594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1208
                                    ò
                                                                      9
                                                                                                          ò
                                                                                                                                             q
                                                                                                                                                                                   ò
                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

8, 2002, 23:41:43

Search completed: March Job time: 1460 sec

```
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
```

OM nucleic - nucleic search, using sw model

March 8, 2002, 23:19:18; Search time 51.55 Seconds Run on:

(without alignments)
7908.058 Million cell updates/sec

1 gigcccacaactcctagiaa.....acgcgigcaigcgacgicai 1800 US-09-645-337-3 1800 Title: Perfect score: Sequence:

IDENTITY_NUC Gapop 10.0 , Gapext 1.0

Scoring table:

Searched:

hits satisfying chosen parameters: Total number of

351203 seqs, 113238999 residues

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Issued_Patents_NA:* Database :

1: /cgn2_6/ptodata/2/ina/5A_COMB.seq:*
2: /cgn2_6/ptodata/2/ina/5B_COMB.seq:*
3: /cgn2_6/ptodata/2/ina/6A_COMB.seq:*
/cgn2_6/ptodata/2/ina/6B_COMB.seq:*
5: /cgn2_6/ptodata/2/ina/PCTUS_COMB.seq:*
6: /cgn2_6/ptodata/2/ina/PCTUS_COMB.seq:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Sequence 1, Appli	7,	5,	3	7	7	δ	317	٦	53	29,	1, A	Sequence 1, Appli	Ļ	31,	Sequence 31, Appl	2, 1	22,	1, 1	رب ر	26,	26,	26,	1, 4	41,	Sequence 6, Appli	1,
ID	US-09-282-305-1	US-09-282-305-7	US-09-282-305-5	US-09-282-305-3	US-08-528-255A-2	US-08-717-365-2	US-09-282-305-9	US-08-998-416-317	US-09-013-634-1	US-09-118-442-29	US-09-677-064-29	US-08-383-756-1	US-08-460-898-1	US-08-964-127-1	US-09-118-442-31	US-09-677-064-31	US-09-027-137-2	US-09-042-785A-22	US-08-890-572-1	US-08-911-423-3	US-08-689-421-26	US-09-389-528-26	US-09-181-827A-26	US-09-214-564A-1	US-08-888-077A-41	US-08-842-842-6	US-08-950-720A-1
80	4	4	4	7	-	-	4	4	~	4	4	٦	7	4	4	4	٣	4	-	٣	m	4	4	m	٣	~	۳
% Query Match Length DB	1826	1943	2019	1475	2111	2111	1576	841	2581	1330	1330	1581	1581	2460	1255	1255	2852	2638	538	1006	3327	3327	3327	2815	2205	2295	792
% Query Match	34.1	30.5	29.5	24.5	24.2	24.2	20.6	10.2	4.2	4.0	4.0	3.8	3.8	3.8	3.7	3.7	3.1	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.4
Score	614	549.6	530.2	441.4	435	435	371.2	184	75	72	72	68.4	68.4	68	29	67	55.4	50.4	50.2	46.4	49.4	4.64	4.64	49	48.8	44.4	43.4
Result No.		7	٣	4	32	9	7	6 0	6	c 10	c 11	12	13	14	15	16	17	c 18	19	20		c 25	c 23	24	25	56	27

•					T 60# C00-00-00	- die one in France
7		2.4	3349	~	US-08-920-234-1	Sequence 1, Appl
ě o		2,3	2830		US-07-882-292-1	Sequence 1, Appl
c 31	1 40.6	2.3	2830	N	US-08-331-644-1	Sequence 1, Appl
3		2.3	2830	S	PCT-US93-04102-1	1,
3	3 40.6	2.3	2921	c,	US-08-904-032-2	Sequence 2, Appl
ń	4 40	2.5	1620	رس	US-08-985-950-11	11,
æ	39.8	2.2	1074	æ	US-09-248-335-67	_
c 36		2.5	3133	4	US-09-193-069-1	1, 1
'n	7 39.2	2.2	198	٦	US-08-330-108-16	16,
m		2.5	198	Ŋ	PCT-US92-10087-16	Sequence 16, Appl
m	9 39	2.5	2047	4	US-09-345-468-1	٠.
4	38.6	2.1	7218	7	US-08-232-463-14	14
4		2.1	14507	m	US-08-785-150-1	1, A
0	2 37.8	2.1	703	4	US-09-313-300-6	9
4		2.1	2719	۳	US-08-706-216-1	Sequence 1, Appli
4		2.1	2125	٦	US-07-779-890-3	ς,
45	5 37.6	2.1	2125	П	US-07-779-890-3	œ,
					ALIGNMENTS	
					ALIGNMENTS	

Sequence 1, Application US/09282305 September 1

Their Uses

325 getgaegeeteegatateggeegatteeattegeeggagtatgttgaetteetegettee 384 145 tetetgeegtegggaeeegaeggaegtaageggegagteagttaettetaegageegaeg 204 Gaps . 9 34.1%; Score 614; DB 4; Length 1826; 69.4%; Pred. No. 5.2e-166; Live 0; Mismatches 370; Indels Best Local Similarity 69.4 Matches 852; Conservative Query Match q q ò δ a ò δý

gecaccggaaaccc----gggtgteetcgacccgcgcgccattaagcgctttaacgtc 355 gtttegeeggaatetatgggegateetteegetgeacgaaaectaaggegatteaatgte 444

302

q

ò

242 gectetgaggeegacateegeegetteeacteegaegaetaegtegettteetegegtee 301

q

ij

TITLE OF INVENTION: Maize Histone Deacetylases FILE REFERENCE: 5718-44,

FILE REFERENCE: 5718-44,
CURRENT APPLICATION NUMBER: US/09/282,305
CURRENT FILING DATE: 1999-04-31,
PRIOR PILING DATE: 1998-04-03
NUMBER OF SEQ ID NOS: 18
SEQ ID NO 7

LENGTH: 1943 TYPE: DNA <u>ب</u>

```
gtgttgggtggtgaagggtatactattcgaaatgttgcccgttgctggtgttatgagact 1104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cctagcgtccagtttcagcacaccaccagtcaatcgagttttggacgagccggaagat 1344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cccagcactcaattccatgacagaccgtcagaccctgaagctccagaggagaaagaggag 1255
                                                                                                                                                                                                                                             685 gtccaccatggagatggaagagggttttacaccactgatagagttatgacttt 744
                                                                                                                                                                                                                                                                                                                       gccgaagggaagcattatgctctgaatgttcccctgagtgatggtatcgatgacaccacc 775
ggtgaggattgtcctgtcttcgacggactttttgatttttgccgtgcttccgccggaggt
                                                 totattggtgctgccgtcaaattaaacagacaggacgctgatatcgctatcaattggggc
                                                                                                536 gtcctcgccatcctcgagctcctcaagttccacaggcgtgtgctatatgtagacattgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gcagttgctgttggagtagagccggacaacaaactcccttacaatgagtattttgagtat
                      356 ggtgaggactgccccgtgttcgacggtctcttccccttctgccaggcctccgctggggga
                                                                                                                                                 gtgctagggattctggagttgctcaagatgtttaagcgggttctctacatagatattgat
                                                                                                                                                                                                                     596 giccaccaiggagaiggegiggaggaggecticitcactacaaaccgagicaigacigit
                                                                                                                                                                                                                                                                                                                                            ttccgcagcttgtttagacctcttatccagaaggttatggaagtgtatcagccagaggca
                                                                                                                                                                                                                                                                                                                                                                   tttcgtggtctgtttcaatgcatcattaagaaagttatggaggtttatcagccagacgtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gaaaaagggaaatactatgctctaaatgttccactaaacgatggtatggacgatgaaagt
                                                                                                                                                                                                                                                                                                                                                                                              gttgttcttcagtgtggtgctgactccttaagtggtgatcggttgggttgcttcaactta
                                                                                                                                                                                                                                                                                                                                                                                                        1165 ttcggcccagattatacgcttcatgtcgacccaagtcctatggagaatttaaacacgccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aaagatatggaggataaggaacacgttgctggaacaactttcgggactaatacacgca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gacatggagacaagaccaaaacctcgca 1372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gacatggacaagaggccacctcagcgca 1283
                                                                                                                                                                                                                                             745
  445
                                                                                                                                                                                                                                                                                                                                            865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1285
                                                                                                                                                625
                                                                                                                                                                                                                                                                                               805
                                                                                                                                                                                                                                                                                                                     716
                                                                                                                                                                                                                                                                                                                                                                    116
                                                                                                                                                                                                                                                                                                                                                                                                                    836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1256
                                                                                                                                                                                                                                                                                                                                                                                            925
                      qq
                                                                    q
                                                                                                                    g
                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                   a
 ò
                                                ò
                                                                                              ô
                                                                                                                                              ò
                                                                                                                                                                                               ò
                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
```

```
126 ggcagacgaaagcggcatctctccgccgtc---gggacccgacggacgtaagcggcgagt 182
                                                                                                                                                                                                                                                                                                               gcctcaccggatccgtatggctcatagcctaatcattcactatcacctccaccgtcgctt 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     365 cetgeteaagegetteaacgteggegaggaetgeeeegtettegaeggeetetacagett 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   663 ggttetetacatagatattgatgtecaceatggagatggagtggaagaagegttttaeae 722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      425 ctgccagacctatgcgggcgcctccgtcggcgggggccgtcaagctcaac---cacggcca 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  183 cagitacitetacgageegaegateggagaetaetaetaeggieaaggeeaeeegaigaa
                                                                                                                                                                                                                                                                           gigetactictacgacccggatgiggcaactactactacgggcagggccatccgatgaa
                                                                                                                                                                                                                                                                                                                                                                           303 agaaatcagtcgccttagcttgacgcctccgatatcggccgattccattcgccgga
                                                                                                                                                                                                                                                                                                                                                                                            gtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttccgctgcacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      423 aaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacttttgattt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       783 teacataagagatgttggegetgaaaaagggaaataetatgetetaaatgtteeaetaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               191 geogeacegeateceggatgacgeactegetgetggegegetacggeetecteaaceagat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        311 ctacatcaacttcctgcgctccgtcacgccggaaacgcagcaggaccagatc----cg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      543 igatatogetateaatiggggeggigggetteaeeaigetaagaaaagegaggeileigg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     603 gittigetaigtaaaegaeategigetagggaitetggagtigeteaagaigtitaageg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ggatatccgtgacattgggcactcaaaagggaagtactactccctgaatgtccctctaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggttat
                                                                                                                                                12;
                                                                                                                                                Indels
                                                                                                                DB 4;
                                                                                                               30.5%; Score 549.6; DB 4; 67.1%; Pred. No. 1.4e-147;
                                                                                                                                               0; Mismatches 394;
                                                                                                                                             Matches 828; Conservative
                              NAME/KEY: CDS
: LOCATION: (57)..(1610)
US-09-282-305-7
                                                                                                                              Similarity
ORGANISM: Zea mays
                                                                                                               Query Match
                                                                                                                                 Best Local
                  FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                           363
                                                                                                                                                                                                                                                                                                             243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                843
                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                ô
                                                                                                                                                                                                                                             ô
                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
```

422 364 482 602

601

661

721

Sequence 7, Application US/09282305 Patent No. 6287843 GENERAL INFORMATION:

US-09-282-305-7

APPLICANT: Baldwin, Donald A. APPLICANT: Briggs, Steven P. APPLICANT: Crane, Virginia C.

841

09:45:57

σ

Mar

Sat

us-09-645-337-3.rni

```
ä
                                                      1022
                                                                                                           1023 atcttacaacgttcctctcatggtgttgggtggtgaagggtatactattcgaaatgttgc 1082
                                                                                                                                                                  tatggagaatttaaacacgcccaaagatatggagaggataaggaacacgttgctggaaca 1262
                                                                                                                                                                                                                                                                                                                                     1263 actttcgggactaatacacgcacctagcgtccagtttcagcacacaccaccagtcaatcg 1322
                                                                                                                                                                                                                                                                                                                                                    962 gictiticaacgiticcatigitigciccitiggiggiggiggiggiatataccataagaaatgitigc 1021
                                                                                                                                                                                             1022 acgetgttggtgttatgagactggagttgetettggecaagageetgaagacaagatgee 1081
                                                                                                                                                                                                                                                                                                           catggagaacaaaaatacacgacaacaactggatgatatacgatctaaacttctggataa 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              114 gacggagatggaggcagacgaaagcggcatctctctcccg---tcgggacccgacggacg 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gaagcgccgcgtctgctacttctacgacgcggaggtgggcaactactactacgggcaggg 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ccacccgatgaagcctcaccggatccgtatggctcatagcctaatcattcactatcacct 290
                          842 ggaggttttccgccctggtgcagttgtgcttcagtgtggtgctgattccttgtctggggga 901
                                                                                                                                                                                                                         ttacaatgagtattttgagtatttcggcccagattatacgcttcatgtcgacccaagtcc
                                                                   taagcggcgagtcagttacttctacgagccgacgatcggagactactactacggtcaagg
ggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactccttaagtggtga
                                                      teggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttcggttcttaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Mismatches 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29.5%; Score 530.2; DB 4; 66.8%; Pred. No. 5.2e-142;
                                                                                                                                                                                                                                                                                                                                                                                             1323 agttttggacgagccggaagatgacatggagaca 1356
                                                                                                                                                                                                                                                                                                                                                                                                                       1262 aatacctgagcaagatgaagatcaagatgatcca 1295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 805; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; LOCATION: (140)..(1459)
US-09-282-305-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
Matches 805; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 2019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-282-305-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE:
SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                             1203
                                                                                                                                                                                                                                                                                                        1142
                                                                                                                                                                                                                                                                                                                                                                 1202
                                                                               902
                                                                                                                                                                                                                         1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            231
903
                                                    893
                                                                                                                                                                 1083
                       g
                                                   ò
                                                                          g
                                                                                                        ò
                                                                                                                                    g
                                                                                                                                                               ò
                                                                                                                                                                                       g
                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
ò
```

```
1011 teggttettaagatettaeaaegtteeteteatggtgttgggtggtgaagggtataetat 1070
                                                                                                                                                                                                                                                                                          650
                                                                                                                                                                                                                                                                                                                  699
                                                                                                                                                                                                                                                                                                                                             710
                                                                                                                                                                                                                                                                 609
            318
                                                                                                                                                                                                                                                                                                                                            caacaaactcccttacaatgagtattttgagtatttcggcccagattatacgcttcatgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cgacccaagtcctatggagaatttaaacacgcccaaagatatggagaggataaggaacac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cgctccaagtaacatggagaataaaaacacacggcatcaattggatgacataaaatcaaa
ccacgccgacgattacgtctcctccggtccgtcaccccgaaacgcagcaggacca
                                                                                                                                     411 ttccgctgcacgaaacctaaggcgattcaatgtccgtgaggattgtcctgtcttcgacgg
                                                                                                                                                    831 tgttccactaaacgatggtatggacgatgaaagtttccgcagcttgtttagacctcttat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tgttcccctggacgatggtattgatgatgagagctaccagtcgttgttcaagccaataat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    891 ccagaaaggttatggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cttaagtggtgatcggttgggttgcttcaacttatcagtcaagggtcacgctgattgcct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aagatttatgaggtccttcaacgtcccgctgttgctgcttggtggtggtgggtataccat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1150 tgacaagatgccacctaatgagtactatgagtattttggtccagattacactctacatgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1270 actictagataatcititcaaaactccgacaigctcctagigitcagiticaagagcgacc
                                     ccaccoftcgcttagaaatcagtcgccctagcctcgctgacgcctccgatatcggccgatt
                                                            cctcgaccagatgcaagtgttccgcctcaccctgcccgcgaccgcgacctctgccgctt
                                                                                     ccattcgccggagtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatcc
                                                                                                                                                                                        471 actititigatititigeegigetieegeeggaggiietatiggigeigeegieaaaliaaa
                                                                                                                                                                                                      cagacaggacgctgatatcgctatcaattgggggcggtgggcttcaccatgctaagaaaag
                                                                                                                                                                                                                                                                                                                                                                                                                        730 ggctttttataccacagaccgggtgatgacagtctcattccacaagtttggagattattt
                                                                                                                                                                                                                                                                                                                                                                                                                                                  cccaggaactggtcacataagagatgttggcgctgaaaaagggaaatactatgctctaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ccctgggacaggggacattcgtgatgttgggcactcaaaggggtaaatattactccctgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1311 accag 1315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1251
            259
                                    291
                                                             319
                                                                                     351
                                                                                                             379
                                                                                                                                                                                                                                         531
                                                                                                                                                                                                                                                                 553
                                                                                                                                                                                                                                                                                            591
                                                                                                                                                                                                                                                                                                                    610
                                                                                                                                                                                                                                                                                                                                              651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         190
                                                                                                          qq
                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                    ò
                                                          a
                                                                                    ò
                                                                                                                                      δ
                                                                                                                                                              5
                                                                                                                                                                                     ò
```

qq

```
1170 cccagattatacgetteatgtegacecaagteetatggagaatttaaacaegeeeaaaga 1229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: Furuya Case 1335 TELECOMMUNICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LIBRARY: human fetal lung cDNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: : FURUKAWA, YOICHI
TITLE OF INVENTION: RPDL PROTEIN AND I
TITLE OF INVENTION: ENCODING THE SAME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP6-227876
FILING DATE: 22-SEPTEMBER-1994
APPLICATION NUMBER: JP7-183763
FILING DATE: 20-JULY-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                             1350 ggagacaagaccaaaacctcgca 1372
                                                                                                                                                                                                                                                                                                                                                                                                              ; Sequence 2, Application US/08528255A
; Patent No. 5659016
                                                                                                                                                                                                                                                                                                        940 ggacaagaggccacctcagcgca 962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Terryence F. Chapman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                32549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: NAKAMURA, YUSUKE APPLICANT: FURUKAWA, YOLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: (616) 381-1156
TELEFAX: (616) 381-5465
INPORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: CDNA to mRNA ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCATION: 64.,1512
IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nucleic acid
EDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSEE: FLYNN, TH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Kalamazoo STATE: Michigan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              49008-1699
                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                      RESULT 5
US-08-528-255A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-528-255A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET:
                                                                                                                                                                                                                   a
                                                                                      ò
                                                                                                                              g
                                                                                                                                                                         οy
                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               990 caagggtcacgctgattgccttcggttcttaagatcttacaacgttcctctcatggtgtt 1049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1050 gggtggtgaagggtatactattcgaaatgttgcccgttgctggtgttatgagactgcagt 1109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1110 tgctgttggagtagagccggacaacaaactcccttacaatgagtattttgagtatttcgg 1169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     630 agggattctggagttgctcaagatgtttaagcgggttctctacatagatattgatgtcca 689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           810 agggaaatactatgctctaaatgttccactaaacgatggtatggacgatgaaagtttccg 869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        930 tcttcagtgtggtgctgactccttaagtggtgatcggttgggttgcttcaacttatcagt 989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           640 aggtggtggaggttacaccatcagaaatgttgcacgctgctggtgctacgagaccgcagt 699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            570 getteaceatgetaagaaaagegaggettetgggttttgetatgtaaaegaeategtget 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    220 egecatectegagetecteaagttecacaggegtgtgetatatgtagacattgatgteea 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         690 ccatggagatggagtggaagaagcgttttacaccactgatagagttatgactgtttcttt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                750 ccacaaatttggggactttttcccaggaactggtcacataagagatgttggcgctgaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1475;
                                                                                                                                                                APPLICANT: Baldwin, Donald A.
APPLICANT: Briggs, Steven P.
APPLICANT: Crane, Virginia C.
TITLE OF INVENTION: Maize Histone Deacetylases And Their Uses FILE REFERENCE: 5718-44,
CURRENT APPLICATION NUMBER: US/09/282,305
CURRENT APPLICATION NUMBER: 60/080,563
PRIOR FILING DATE: 1998-04-03
NUMBER OF SEO ID NOS: 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ouery Match 24.5%; Score 441.4; DB 4; Best Local Similarity 71.9%; Pred. No. 1.1e-116; Matches 577; Conservative 0; Mismatches 226;
                                                                                                      Sequence 3, Application US/09282305
Patent No. 6287843
                                                                                                                                                                                                                                                                                                                                                                                        Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; NAME/KEY: CDS
; LOCATION: (29)..(1084)
US-09-282-305-3
                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Zea mays
1330 teetq 1334
                                                                                                                                                                                                                                                                                                                                                                                                                                1475
                                                                                US-09-282-305-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              700
```

a ò g ò a ò q ò g ð g ò g 셤 ò g

```
1230 tatggagagagataaggaacacgttgctggaacaactttcgggactaatacacgcacctag 1289
                                                                                                                                                       1290 egtecagitteageacacaceaceateategagittiggaegageeggaagaigaeai 1349
                                                                                        COMPUTER FEADABLE FORM:
MEDIUM TYPE: Diskette, 3.5 inches, 1.44 Mb storage COMPUTER: IBM PC/XT/AT Compatible OPERATING SYSTEM: MS-DOS 5.0
SOFTWARE: WordPerfect 5.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/528,255A
FILING DATE: September 14, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   experimental examination
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                E: FLYNN, THIEL, BOUTELL & TANIS, P.C. 2026 Rambling Road
```

```
1254 gctggaacaactttcgggactaatacacgcacctagcgtccagtttcag 1302
                                                                                                                                                                                                                                                               APPLICANT: : FURUKAWA, YOICHI
TITLE OF INVENTION: RPDL PROTEIN AND
TITLE OF INVENTION: ENCODING THE SAME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Filling
PRICASIPICATION:
PRICA APPLICATION DATA:
APPLICATION NUMBER: 08/528 255
APPLICATION NUMBER: 08/528 255
TING DATE: September 14, 1995
TING DATE: TOPE 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 22-SEPTEMBER-1994
APPLICATION NUMBER: JP7-183763
                                                                                                                                                                  US-08-717-365-2; Sequence 2, Application US/08717365; Patent No. 5763182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Terryence F. Chapman REGISTRATION NUMBER: 32549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20-JULY-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: (616) 381-1156
TELEFAX: (616) 381-5465
INFORMATION FOR SEO ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: NAKAMURA, YUSUKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23-SEP-1996
N: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCATION: 64..1512 IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               double
                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 2 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: nucleic acid
STRANDEDNESS: doub
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                              CITY: Kalamazoo
STATE: Michigan
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 49008-1699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LIBRARY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 703;
                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-717-365-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
                     g
                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                          ô
                                         ;;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          caaactcccttacaatgagtattttgagtatttcggcccagattatacgcttcatgtcga 1193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     954 aagtggtgatcggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttcg 1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1014 gitcitaagaicitacaacgitccicicatggigitgggiggigaagggiataciaitcg 1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1074 aaatgttgcccgttgctggtgttatgagactgcagttgctgttggagtagagccggacaa 1133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1194 cccaagtcctatggagaatttaaacacgcccaaagatatggagagggataaggaacacgtt 1253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         234 cccgatgaagcctcaccggatccgtatggctcatagcctaatcattcactatcacctcca 293
                                                                                                                                                                                                                                                                                                                             267 CAGCGATGACTACATTAAATTCTTGCGCTCCATCCGTCCAGATAACATGTCGGAGTACAG 326
                                                                                                                                                                                                                                                                                                                                                                                                  381 GTTTGAGTTCTGTCAGTTGTCTACTGGTGGTTCTGTGGCAAGTGCTGTGAAACTTAATAA 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     441 GCAGCAGACGGACATCGCTGTGAATTGGGCTGGGGGCCTGCACCATGCAAAGAAGTCCGA 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        594 ggcttctgggttttgctatgtaaacgacatcgtgctaggaattctggagttgctcaagat 653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  654 gtttaagcgggttctctacatagatattgatgtccaccatggagatggagtggaagaagc 713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        561 TCACCAGAGGTGCTGTACATTGACATTGATATTCACCATGGTGACGCGTGGAAGAGGC 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    774 aggaactggtcacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgt 833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           681 AGGAACTGGGGACCTACGGGATATCGGGGCTGGCAAAGGCAAGTATTATGCTGTTAACTA 740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  801 CAAAGTAATGGAGATGTTCCAGCCTAGTGCGGTGGTCTTACAGTGTGGCTCAGACTCCCT 860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       861 ATCTGGGGATCGGTTAGGTTGCTTCAATCTAACTATCAAAGGACACGCCAAGTGTGTGGA 920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 174 geggegagteagttaettetaegageegaegateggagaetaetaetaeggteaaggeea 233
                                                                                            147 CCCAATGAAGCCTCACCGAATCCGCATGACTCATAATTTGCTGCTCAACTATGGTCTCTA 206
                                                                                                                                                                                                                         294 cogtogottagaaatcagtogcoctagcotogotgacgcotocgatatoggoogattoca 353
                                                                                                                                                                                                                                                               207 CCGAAAAATGGAAATCTATCGCCCTCACAAAGCCAATGCTGAGGAGATGACCAAGTACCA 266
                                                                                                                                                                                                                                                                                                    354 ttogocogaagtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttc 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                834 tecactaaacgatggtatggacgatgaaagttteegeagettgtttagaeetettateea 893
                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                534 acaggacgetgatategetateaattggggeggtgggetteaeeatgetaagaaaagega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       894 gaaggttatggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactcctt
                                                                                                                                                                                                                                                                                                                                                                                                                                                       474 ttttgatttttgccgtgcttccgccggaggttctattggtgctgccgtcaaattaaacag
                                                                                                                                                                                                                                                                                                                                                                            414 cgctgcacgaaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacggact
Length 2111;
24.2%; Score 435; DB 1; Length 21 62.3%; Pred. No. 9.2e-115; ive 0; Mismatches 420; Indels
                                   703; Conservative
                   Local Similarity
 Query Match
                     Best Loca
Matches
                                                                                                                                                 ò
                                                                                                                                                                                    g
                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                         ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         174 goggogagteagttacttetacgagecgaegateggagaetactaetaeggteaaggeea 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 2111;
                                                                                                                                                       MEDIUM TYPE: Diskette, 3.5 inches, 1.44 Mb storage COMPUTER: IBM PC/XT/AT Compatible OPERATING SYSTEM: MS-DOS 5.0 SOFTWARE: WordPerfect 5.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             experimental examination
ADDRESSEE: FLYNN, THIEL, BOUTELL & TANIS, P.C. STREET: 2026 Rambling Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 435; DB 1; I
Pred. No. 9.2e-115;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Mismatches 420;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: Furuya Case 1335 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    human fetal lung cDNA library
```

```
954 aagtggtgatcggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttcg 1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         THE FILE THE TRANSPORT OF THE THE TRANSPORT TO THE TENSOR TO THE TRANSPORT TO THE TRANSPORT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1194 cccaagtcctatggagaatttaaacacgcccaaagatatggagagataaggaacacgtt 1253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       caaactcccttacaatgagtattttgagtatttcggcccagattatacgcttcatgtcga 1193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCTTCCAATATGACTAACCAGAACACGAATGAGTACCTGGAGAAGATCAAACAGCGACT 1160
CCGAAAAATGGAAATCTATCGCCTCACAAAGCCAATGCTGAGGAGATGACCAAGTACCA 266
                                                                                                                                                                                                                                                                                                                                                                                                   C-----AAGCAGATGCAGAGATTCAACGTTGGTGAGGACTGTCCAGTATTCGATGGCCT 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cogtogottagaaatcagtcgccctagcctcgctgacgcctccgatatcggccgattcca 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   354 ttcgccggagtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   acaggacgctgatatcgctatcaattggggcggtgggcttcaccatgctaagaaaagcga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tecaetaaaegatggtatggacgatgaaagttteegeagettgtttagaeetettateea
                                                                                                                                                                                                                                                                                                   CAGCGATGACTACATTAAATTCTTGCGCTCCATCCGTCCAGATAACATGTCGGAGTACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             474 ttttgatttttgccgtgcttccgccggaggttctattggtgctgccgtcaaattaaacag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gaaggttatggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactcctt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               801 CAAAGTAATGGAGATGTTCCAGCCTAGTGCGGTGTCTTACAGTGTCGGCTCAGACTCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cgctgcacgaaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacggact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gtttaagcgggttctctacatagatattgatgtccaccatggagatggagtggaagagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gttttacaccactgatagagttatgactgtttctttccacaaatttggggactttttccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aggaactggtcacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        741 CCCGCTCCGAGACGGGATTGATGACGAGTCCTATGAGGCCATTTTCAAGCCGGTCATGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gctggaacaactttcgggactaatacacgcacctagcgtccagtttcaq 1302
                                                                                                                                                                                207
                                                                                                                                                                                                                                                                                                                                                              414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1161
                                                          147
                                                                                                                     294
                                                                                                                                                                                                                                                                                                                                                                                                                         327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      681
ò
                                                          g
                                                                                                                     ò
                                                                                                                                                                          q
                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
321 gagaagactgiccggictitgataattigitigagiictgccaaatciatgcgggaggaa 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               206 toggagactactactacggtcaaggccacccgatgaagcctcaccggatccgtatggctc 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   87 ttggcaatgtctactttgggccaaatcacccatgaagccacatcgtctctgtatgacac 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           266 atagcctaatcattcactatcacctccaccgtcgcttagaaatcagtcgccctagcctcg 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    326 ctgacgcctccgatatcggccgattccattcgccggagtatgttgacttcctcgcttccg 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tecaceatggagatggaagaagagegttttacaceaetgatagagttatgaetgttt 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gtttccacaagtatggtgacctgttctttcctggaacaggtgatattaaggatataaggag 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             803 ctgaaaaagggaaatactatgctctaaatgttccactaaacgatggtatggacgatgaaa 862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gtgaggattgtcctgtcttcgacggactttttgatttttgccgtgcttccgccggaggtt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               147 atcaccttgttctttcatatggacttcatcaaaagatggagatatataggccacacaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tttcgccggaatctatgggcgatccttccgctgcacgaaacctaaggcgattcaatgtcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ctattggtgctgccgtcaaattaaacagacaggacgctgatatcgctatcaattgggggcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ctttagatgctgctcgcagattaaatcataaaatatgtgacattgccattaattgggctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tgctagggattctggagttgctcaagatgtttaagcgggttctctacatagatattgatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  501 tattaggaattetggagetteteaagtaceatgeeagggttetttatattgaeattgatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ctttccacaaatttggggac...ttttcccaggaactggtcacataagagatgttggcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1576;
                                                                        APPLICANT: Baldwin, Donald A.
APPLICANT: Briggs, Steven P.
APPLICANT: Crane, Virginia C.
TITLE OF INVENTION: Maize Histone Deacetylases And Their Uses
FILE REFERENCE: 5718-44,
CURRENT APPLICATION NUMBER: US/09/282,305
CURRENT FILING DATE: 1999-03-31
PRIOR PPLICATION UNBERE: 60/080,563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 371.2; DB 4; Length
Pred. No. 1.4e-96;
0; Mismatches 463; Indels
                  ; Sequence 9, Application US/09282305
; Patent No. 6287843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 20.6%;
Best Local Similarity 59.0%;
Matches 678; Conservative 0
                                                                                                                                                                                                                                                                       Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                        ; LOCATION: (38)..(1336)
US-09-282-305-9
                                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS:
                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                ORGANISM: Zea mays
                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                             LENGTH: 1576
JS-09-282-305-9
                                                                                                                                                                                                                                                                                         SEQ ID NO 9
                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
                                                                                                                                                                                                                                                                       SOFTWARE
                                                                                                                                                                                                                                                                                                                                                                      FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         38.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  đ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

'n

```
1103 ctgcagttgctgttggagtagagccggacaacacaactccttacaatgagtattttgagt 1162
                                                                                                                                                                                                                                                                                                                                                                                                   981 ctggggtccttttagacacagaactcccaaatgagattccaaaaaatgaatattgagt 1040
                                                                                                                                                                                                                                                                                                                                                                                                                                          1163 atttoggoccagattatacgottcatgtogacccaagtcotatggagaatttaaacacgc 1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1041 actttgctccagattatacattgaaagttccaaatttgaacatggacaatttgaacagta 1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1283 cacctagogtccagtttcagcacacaccaccagtcaatcgagttttggacgagccggaag 1342
                                                                                                                                                                                                983 tatcagtcaagggtcacgctgattgccttcggttcttaagatcttacaacgttcctctca 1042
                                                                                                                                                                                                                                                                               1043 tggtgttgggtggtgaagggtatactattcgaaatgttgcccgttgctggtgttatgaga 1102
                                                                                                               861 tetetattgaaggecatgetgaatgtgtaaagtttgteaagaaatteaatatteeeette 920
681 aaagggaaggaaaatattatgctatcaacattccacttaaagatgggatagatgacacta 740
                                   863 gtttccgcagcttgtttagacctcttatccagaaggttatggaagtgtatcagccagagg
                                                                            741 getttaeteggeettttaaaacaattattgeeaagttgttgagaeatatetgeetggtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1223 ccaaagatatggagaggataaggaacacgttgctggaacaactttcgggactaatacacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Rebischung, Corinne
TITLE OF INVENTION: GENOMIC DNA SEQUENCES OF ASHBYA GOSSYPII
TITLE OF INVENTION: AND USES THEREOF
NUMBER OF SEQUENCES: 1152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: No. 6239264artis Corporation
STREET: 3054 Cornwallis Road
CITY: Research Triangle Park
STATE: No. 6239264th Carolina
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/998,416
FILING DATE: 24-DEC-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 317, Application US/08998416
Patent No. 6239264
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMFUTER: IBM PC compatible
OPERATING SYSTEM: PC_DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION: 435
PRIOR APPLICATION DATA:
PLING DATE: 31-DEC-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Philippsen, Peter
Pohlmann, Rainer
Steiner, Sabine
Mohr, Christine
Wendland, Jurgen
Knechtle, Philipp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1343 atgacatgga 1352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1221 atgaattgga 1230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-998-416-317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                          g
                                                                                                                                                       a
                                                                                                                                                                                                ò
                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           염
                                       ò
                                                                                                                 ò
```

```
970 ggttgetteaacttateagteaagggteaegetgattgeetteggttettaagatettae 1029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1030 aacgtteeteteatggtgttgggtggtgaagggtataetattegaaatgttgeeegttge 1089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               613 gtaaacgacatcgtgctagggattctggagttgctcaagatgtttaagcgggttctctac 672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        673 atagatattgatgtccaccatggagatggagtggaagaagcgttttacaccactgataga 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182 GIGITCACGGICTCCATACAAGTACAAIGGIGAGTITITITCCGGGAACGGGGGAITIG 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               362 TACAAGCCAACAGTAATTATTCAGCAATGTGGAGCAGACTCTTTGGGGCATGACAGACTG 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      553 atcaattgggggggggtgggcttcaccatgctaagaaaagcgaggcttctggttttgctat 612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62 GTGAACGACATTGTTCTGGGATCTGAATCTGCTGCGCTACCACCACGCGTTCTGTAC 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  242 GATGAGATCGGATGCTCGCGCGGCAAGCACTTTTCGCTGAATGTGCCGCTCAATGACGGC 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              850 atggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggttatggaagtg 909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         302 ATCGATGATGATTCGTACATCAACTTATTTAAGAGCATCATAGACCGGTAGTTACATCA 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 ATCAACTGGTCGGCGGGCTGCACCACGCCAAGAAGACCAATCCTTCGGGGTTCTGTAC 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122 ATTGACATTGATCTGCACGCAGGGGGGGTGTCCAAGAGCATTCTACACTACTGACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            733 gttatgactgtttctttccacaaat---ttggggactttttcccaggaactggtcacata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     790 agagatgttggcgctgaaaaagggaaatactatgctctaaatgttccactaaacgatggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       910 tatcagccagaggcagttgttcttcagtgtggtgctgactccttaagtggtgatcggttg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 841;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: M. Alexandra Glucksmann and Keith Robison
TITLE OF INVENTION: LIGAND RECEPTORS AND USES THEREFOR
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                               Score 184; DB 4; L
Pred. No. 3.8e-43;
0; Mismatches 215;
                                                                 PF/5-30306/A/CGC1976
                                                     REFERENCE/DOCKET NUMBER:
PF/S
TELECOMMUNICATION INFORMATION:
TELEFAX: 919-541-8587
TELEFAX: 919-541-8689
INPORMATION FOR SEQ ID NO: 317:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Application US/09013634 Patent No. 5945307
                     NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,241
                                                                                                                                                                                                                                                      AOLECULE TYPE: DNA (genomic)
ORGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                 10.2%;
60.6%;
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1090 tggtgttatgagactg 1105
                                                                                                                                                                                                  LENGTH: 841 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 60.69
Matches 337; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541 TGGACGTACGAGACAG 556
                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: PAG1256UP
US-08-998-416-317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-013-634-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        염
```

;;

```
SOFTWARE: FastSEQ for Windows Version 3.0 SEQ ID NO 29 LENGTH: 1330
                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 11
US-09-677-064-29/c
: Sequence 29, Application US/09677064
: Patent No. 6291224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-383-756-1; Sequence 1, Application US/08383756; Patent No. 5654495
                                                                                                                                                                                                                                                                                                                          1789 atgcgacgtcat 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1789 atgcgacgtcat 1800
                                                                                                                                                                                                                                                                                                                                                 34 ATGCGACGTCAT 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             34 ATGCGACGTCAT 23
                                                               TYPE: DNA
CORGANISM: Zea mays
US-09-118-442-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; ORGANISM: Zea mays
US-09-677-064-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0y
                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Martino-Catt, Susan J.
APPLICANT: Martino-Catt, Susan J.
APPLICANT: Wang, Hongyu
APPLICANT: Wang, Hongyu
APPLICANT: Wang, Larry R.
APPLICANT: Wang, Larry R.
TITLE OF INVENTION: Genes Controlling Phytate Metabolism in TITLE OF INVENTION: Plants and Uses Thereof
FILE REFERENCE: 0706
FILE REFERENCE: 0706
CURRENT APPLICATION NUMBER: 05/055,446
EARLIER APPLICATION NUMBER: 60/055,446
EARLIER APPLICATION NUMBER: 60/055,526
EARLIER FILING DATE: 1997-08-08
EARLIER FILING DATE: 1997-08-08
EARLIER FILING DATE: 1997-07-28
NUMBER OF SEQ ID NOS: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ouery Match 4.2%; Score 75; DB 2; Length 2581; Best Local Similarity 100.0%; Pred. No. 1e-11; Matches 75; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/013,634
                                                                                                                                                                                                                                                                                                                                                                            NAME: Attorney, Jean M. Silveri
REGISTRATION NUMBER: 39,030
REFERENCE/DOCKET NUMBER: MI-036
TELECOMMUNICATION INFORMATION:
TELEPAX: (617)227-7400
TELEPAX: (617)227-4214
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
ADDRESSEE: LAHIVE & COCKFIELD, LLP STREET: 28 State Street
                                                                                                                                                                                   PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-118-442-29/c
; Sequence 29, Application US/09118442B
; Patent No. 6197561
                                                                                                                                                          COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-
                                                                                                                                                                                                                                                                                                                                         FILING DATE: ATTORNEY/AGENT INFORMATION:
                                                                                                                                         Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 2581 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1786 tgcatgcgacgtcat 1800
                                                           Massachusetts: USA
                                                                                                                                                                                                                                                                             CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCATION: 184..1194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: CDS
                                                                                              02109
                                                                                                                                                                                                                                                         FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-013-634-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
```

```
;;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Martino-Catt, Susan J.
APPLICANT: Martino-Catt, Susan J.
APPLICANT: Martino-Catt, Susan J.
APPLICANT: Mang, Hongyu
APPLICANT: Beach, Larry R.
TITLE OF INVENTION: Genes Controlling Phytate Metabolism in
TITLE OF INVENTION: Plants and Uses Thereof
FILE REFERENCE: 07060
CURRENT FILING DATE: 2000-09-29
CURRENT PILING DATE: 1997-08-11
PRIOR FILING DATE: 1997-08-13
PRIOR FILING DATE: 1997-08-08
PRIOR FILING DATE: 1997-08-08
PRIOR FILING DATE: 1997-09-18
PRIOR FILING DATE: 1997-09-18
PRIOR FILING DATE: 1997-09-18
PRIOR FILING DATE: 1998-07-17
PRIOR FILING DATE: 1998-07-17
NUMBER OF SEQ ID NOS: 31
SOFTWARD SECTION NUMBER: 09/118,442
SURPRISE FRANTON NUMBER: 09/118,442
SURPRISE FRANTON NUMBER: 09/118,442
SURPRISE FRANTON NUMBER: 09/118,442
SURPRISE FRANTON NUMBER: 09/118,442
Query Match 4.0%; Score 72; DB 4; Length 1330; Best Local Similarity 100.0%; Pred. No. 5.3e-11; Matches 72; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 4.0%; Score 72; DB 4; Length 1330; Best Local Similarity 100.0%; Pred. No. 5.3e-11; Matches 72; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: Debesh, Katayoon
APPLICANT: Voelker, Toni Alois
APPLICANT: Hawkins, Deborah
APPLICANT: Davies, Huw Maelor
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 3.8%; Score 68.4; DB 1; Length 1581; Best Local Similarity 92.3%; Pred. No. 6.2e-10; Matches 72; Conservative 0; Mismatches 6; Indels 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Production of Myristate in Plant Cells
IITLE OF INVENTION: Production of Myristate in Plant Cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6; Indels
                                                                                                                                                                                                                 COMPUTER REALBLE FOUR

COMPUTER: Apple Macintosh
COMPUTER: Microsoft Word 5.1(a)
SOFTWARE: Microsoft Word 5.1(a)
APPLICATION NUMBER: US/08/383,756
FILING DATE: 02-FEB-1995
CLASSIFTCATION DATA:
APPLICATION WORDER: 08/261,695
FILING DATE: 16-UN-94
CLASSIFTCATION ATA:
APPLICATION NUMBER: PCT/US93/10814
FILING DATE: 29-OCT-93
CLASSIFTCATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: USSN 07/968,971
FILING DATE: 30-OCT-92
ATTORNEY AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGNE 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1, Application US/08460898; Patent No. 5850022; GENERAL INFORMATION:
APPLICANT: Dehesh, Katayoon
APPLICANT: Voelker, Toni Alois
APPLICANT: Hawkins, Deborah
APPLICANT: Davies, Huw Maelor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTURNET, INCOMENTATION
NAME: Doing B. Scherer
REGISTRATION NUMBER: 31,845
NAME: Doing B. Scherer
REGISTRATION NUMBER: 34,719
NAME: Carl J. Schwedler
REGISTRATION NUMBER: 36,924
REFERENCE/DOCKET NUMBER: GONE
TELECOMMUNICATION INFORMATION:
TELEFRAN: (916,73-1510)
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
                NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Calgene, Inc.
STREET: 1920 Fifth Street
CITY: Davis
STATE: CA
COUNTY: USA
ZIP: 95616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               / MOLECULE TYPE: CDNA to mRNA
US-08-383-756-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1528 GCGTGCATGCGACGTCAT 1545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1783 gcgtgcatgcgacgtcat 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 1581 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nucleic acid
EDNESS: double
                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-460-898-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
```

```
1723 gtgaaaaaaaaaaaaaaaaaaaaaaaagggcgcgctctagaggatccaagcttacgtac 1782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1468 GTCATTAAGTTAAAAAAAAAAAAAAAAGGGCGGCCGCTCTAGAGGATCCAAGCTTACGTAC 1527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 3.8%; Score 68.4; DB 2; Length 1581; Best Local Similarity 92.3%; Pred. No. 6.2e-10; Matches 72; Conservative 0; Mismatches 6; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1, Application US/08964127; Patent No. 6277565; GENERAL INFORMATION: GENERAL INFORMATION: TITLE OF INVENTION: NOVEL GENES ENCODING TRANSPORTER-LIKE
                                                                                                                                                                                                         COMPUTER READBLE FORM FUNDED MEDIUM TYPE: Diskette, 3.50 inch, 2.0 MB COMPUTER: Apple Macintosh OPERATING SYSTEM: Macintosh 7.0 SOFTWARE: Microsoft Word 5.1(a) SOFTWARE: Microsoft Word 5.1(a) CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/460,898 FILING DATE: 05-UN-1995 CLASSIFICATION NUMBER: 08/383,756 FILING DATE: 05-UN-96 CLASSIFICATION DATA: APPLICATION NUMBER: 08/261,695 FILING DATE: 16-UN-94 CLASSIFICATION DATA: APPLICATION NUMBER: 08/261,695 FILING DATE: 16-UN-94 CLASSIFICATION DATA: APPLICATION NUMBER: PCT/US93/10814 FILING DATE: 29-COT-93 CLASSIFICATION NUMBER: USSN 07/968,971 FILING DATE: 30-COT-92 CLASSIFICATION UNDBER: USSN 07/968,971 FILING DATE: 30-COT-92 ATTORNEY/AGENT INFORMATION: NAME: Blizabeth Lassen REGISTRATION NUMBER: 34,719 REGISTRATION NUMBER: 34,719 REGISTRATION NUMBER: 34,719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Carl J. Schwedler
REGISTRATION NUMBER: 36,924
REFERENCE/OCCET NUMBER: 36,924
REPERDENCE/OCCET NUMBER: GGNE 111-1
TELECOMUNICATION INFORMATION:
TELEPAK: (916) 753-6313
INFORMATION FOR SEQ 1D NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 1581 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: linear
MOLECULE TYPE: cDNA to mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1783 gcgtgcatgcgacgtcat 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1528 GCGTGCATGCGACGTCAT 1545
                                                                   1920 Fifth Street
                                           Calgene, Inc
NUMBER OF SEQUENCES: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: nucleic acid
STRANDEDNESS: double
                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                               COMPUTER READABLE FORM:
                                                                                                                                                USA
                                                                   STREET: 1920
CITY: Davis
STATE: CA
COUNTRY: USP
                                                                                             Davis
                                                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-460-898-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-964-127-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ογ
```

ô

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Wang, Hongyu
APPLICANT: Wang, Hongyu
APPLICANT: Wang, Hongyu
APPLICANT: Wang, Xun
APPLICANT: Wang, Xun
APPLICANT: Bowen, Benjamin A.
TITLE OF INVENTION: Genes Controlling Phytate Metabolism in
TITLE OF INVENTION: Bulants and Uses Thereof
FILE REFERENCE: 0706
CURRENT APPLICATION NUMBER: 05/09/118,442B
CURRENT FILING DATE: 1998-07-17
EARLIER FILING DATE: 1998-07-17
EARLIER FILING DATE: 1998-06-08
EARLIER FILING DATE: 1997-08-18
EARLIER FILING DATE: 1997-08-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ouery Match 3.8%; Score 68; DB 4; Length 2460; Best Local Similarity 100.0%; Pred. No. 1e-09; Matches 68; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                  COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows 95
OSTWARE: FastSEQ for Windows Version 2.0b
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
ATTORNEY AGENT INFORMATION:
NAME: CTEWS, Ph.D., L. Lee
REGISTRATION NUMBER: P-43,567
TITLE OF INVENTION: MOLECULES
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
STREET: 225 Franklin Street
CITY: Boston
                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/964,127
FILING DATE: 06.NOV-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 15
US-09-118-442-31
: Sequence 31, Application US/09118442B
: Patent No. 6197561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 07.
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5070
TELEFAX: 617/542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELERAX: 617/542-8906
TELEX: 200154
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2460 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: Coding Sequence LOCATION: 498...2057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: Genomic DNA
                                                                                                                                               COUNTRY: USA
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2453 TGCATGCG 2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1786 tgcatgcg 1793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-964-127-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
```

ö

		•
		•

```
1 gtgcccacaactcctagtaa.....acgcgtgcatgcgacgtcat 1800
                                                                                                                                                                                                                                22703874
GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                       11351937 seqs, 5372889281 residues
                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                               OM nucleic - nucleic search, using sw model
                                                                                                                                                                    IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gb_gss:*
em_gss_fun:*
em_gss_hum:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 em_gss_pro:*
em_gss_rod:*
em_gss_vrt:*
                                                                                                                                                                                                                                                      Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         em_gss_inv:*
em_gss_pln:*
                                                                                                                  US-09-645-337-3
                                                                                                                                                                                                                                                                                                                                                      em_estfun:*
em_esthum:*
                                                                                                                                                                                                                                                                                                                                                                              em_estin:*
em_estom:*
em_estpl:*
em_estba:*
em_estba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                         em_estov:*
em_htc:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                gb_est1:*
gb_est2:*
gb_htc:*
                                                                                                                                                                                                                                                                                                                                            EST:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14:
15:
16:
17:
18:
20:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                10:
                                                                                                                     Title:
Perfect score:
Sequence:
                                                                                                                                                                    Scoring table:
                                                                                                                                                                                                                                                                                                                                             ••
                                                                                                                                                                                                        Searched:
                                                                                                                                                                                                                                                                                                                                            Database
                                                                      Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

em_gss_other:*

Description	AV560183 AV560183	BI177518 EST518463	AV567115 AV567115 A.1394397 A.1394397	AL518877 AL518877	AL426842 clone BAO AL414998 T3 end of	AI726977 BNLGH1702	AL405628 T3 end of		AL531607 AL531607
SUMMARIES	AV560183	B1177518	AV567115 A7394397	AL518877	CNSO72YS	AI726977	CNS06MLI	BF324960	AL531607
DB	10	11	200	10	13	10	13	11	10
% Duery Watch Length DB	609	737	385	666	977 907	609	1030	617	919
% Ouery Match	33.8	23.8	21.2	19.6	19.3 19.3	19.1	19.0	18.9	18.9
Score	509	428.8	380.8 365	353	347.2	343.4	342.2	341	340.2
ult No.	4 0	t m ·	♣ ₪	9	<u>ہ</u> 8	6	10	11	13
Result	υ		υ		υ		ပ		

AW217600 EST296314 AA394745 26542 Lam AL58916 AL558916 BE036122 MO07D08 M BG449764 NF007G021 BF176911 EM1_4 C06 BG75668 G02715527 AU132519 AU122519 AL428565 Clone BA0 AL4385810 AL4380 BE558877 HV_CED002 AL558160 AM308961 SF92d04.y AL555361 AL555361 AL546378 AL555361 AL546378 AL555361 AL546378 AL555361 AL556378 G01577573 BR914189 16148 Lambd BC755703 602716076 AL437538 T7 end of BR37538 T7 end of BR37538 T7 end of	AA4414030 AA4414030 AU38893 BE1225916 BE225916 BE225916 BE384279 AL43243 AN59855 AW39885	EST 07-SEP-2000 een siliques Columbia Arabidopsis , mRNA sequence. ophyta; Embryophyta; Tracheophyta; dicotyledons; core eudicots; s; Brassicaceae; Arabidopsis.	and Tabata,S. Arabidopsis thaliana: Gen sequence tags from normal ene Research 0812, Japan	http:/ chaliar thalia iques"
AW217600 AA394745 BE036122 BG449764 BF176911 BG75666 BG756668 AG756668 BG12519 CNSO74AN AL536160		p mRNA s thaliana gre SQ130f11F 3', 609 antae; Streptc ollophyta; euc	Y., Sato,S. s of CDNA int expressed braries 2000) u for Plant Ge institute ', Chiba 2922	isamizuekazusa.or.jp, URL; Location/Qualifiers 1.609 /organism="Arabidopsis torganism="Columbia" /strain="Columbia" /db_xref="taxon:3702" /clone="SQ130f1lF" /clone="Llb="Arabidopsis f1issue_type="green sil." /note="Vector: pBluescr:xho!"
4 4 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	647 10 687 10 687 10 681 10 709 11 1078 13 1005 10 577 10	AV560183 609 bp AV560183 Arabidopsis AV560183 Arabidopsis AV560183 GI:873160 EST. Arthale cress. Arabidopsis thaliana Eukaryota; Viridiplan Spermatophyta; Magnol Spermatophyta; Magnol Spermatophyta; Magnol	Asanizu, E., Nakamura, Y., Sato, Al Large scale analysis of cDNA al Large scale analysis of cDNA 12.028 non-redundant expressize-selected cDNA libraries DNA Res. 7, 175-180 (2000) Contact: Erika Asamizu The First Laboratory for Plant Reausa DNA Research Institute Yana 1532-3, Kisarazu, Chiba	sanizukkazusa or. Location/Qualifi 1. 609 /organism="Arabi /strain="Columbi /db_xref="taxon: /clone="SQ130f11 /clone="Lib="Arab /tissue_type="gr /note="Vector: RhoI"
2.2 118.5 2.1 188.5 2.1 17.7 8 8 17.7 8 17.7 8 17.7	6866226688666	AV560183 Av560183 Av560183 Av560183 Av560183.1 EST. thale cress Arabidopsis Bekaryota; Spermatoph Rosidae; en Rosi	1 (bases Asamizu, E. A large sc of 12,028 size-selec DNA Res. 7 20363093 Contact: Fre First Kazusa DNA Yana 1532-	Email: asail i
22 23334 22 24 3118 22 25 3309 24 318 25 26 309 26 27 318 27 27 318 27 28 318 28 31 28 318 28 31 28 318 28 31 28 318 31 28 318 28 318 31 28 318 318 318 318 318 318 318 318 318 31	25 25 25 25 25 25 25 25 25 25 25 25 25 2	LOCUS DEFINITION ACCESSION VERSION VERSION ORGANISM	REFERENCE AUTHORS TITLE JOURNAL MEDLINE COMMENT	FEATURES SOUICE
	~ ## %	XXXX DK	≅ ऍ	ធ

ò a ò a ò 合

d ò

ò q ò q ò g ò g ò qq

```
Query Match
     TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                           433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BI177518
                                                                                                                              FEATURES
                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Locus
                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 553)
Chen, J., Mondyama, M., Chan, E., Mooney, M., Carroon, B., Gilliland, D., Wang, X., Hillman, J., Guegler, K., Kim, C., Doyle, M., Brzoska, P., Gorgone, G., Burns, D., Griffin, J., Mouanoutoua, M., Nguyen, D., Tan, R., Roselm, Warren, B., Ton, B., Kastury, K., Borillo, C., Carpio, T., Policky, J., Suzuki, G., Argentine, C., Shah, S., Nobriga, A., Murry, L., Turner, C., Krikorian, S., Elder, L. and Hanson, D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arabidopsis thaliana
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A1994522 553 bp mRNA EST 08-SEP-1999 701498504 A. thallana, Ohio State clone set Arabidopsis thallana cDNA clone 701498504, mRNA sequence.
A1994522 GI:5841427
                                                                                                                                                                                                                                                                                                                                                                                   1081 gcccgttgctggtgttatgagactgcagttgctgttggagtagagccggacaacaaactc 1140
                                                                                                                                                                1141 ccttacaatgagtattttgagtatttcggcccagattatacgcttcatgtcgacccaagt 1200
                                                                                                                                                                                                                      cctatggagaatttaaacacgcccaaagatatggagaggataaggaacacgttgctggaa 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            caactttcgggactaatacacgcacctagcgtccagtttcagcacacaccaccatcaat 1320
                                                                                                                                                                                                                                                                                                                                cgagttttggacgagccggaagatgacatggagacaagaccaaaacctcgcatntggagt 1380
                                                                                                                                                                                                                                                                                                                                                                                                                                          tgtcgtggtggcgcaactacggacagggactctaccggtgaagatgaaatggatgacgat 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tgatgttttttcagcaaccttttgagttctgtgaaaacgctgcattgattagaacagtga 1680
                                                                                                                                                                             310
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                         Length 609;
                                                                                    Indels
                                                       Score 608; DB 10;
Pred. No. 2.3e-100;
0; Mismatches 1;
  176
    б
  129
                                                       33.8%;
99.8%;
  υ
                                                                                Matches 608; Conservative
  148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1681 caactgact 1689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     thale cress.
                                                                     Similarity
    ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9 CAACTGACT 1
 156
                                                       Query Match
                                                                     Best Local
BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                         1261
                                                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                                                                                                                    1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1621
                                                                                                                                                                                                                                              489
                                                                                                                                                                                                                                                                                                                                                                                                               309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AI994522
              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCUS
```

g ò 윱

ò

```
/organism="Arabidopsis thaliana"
/db_xref="taxon:3702"
/db_xref="taxon:3702"
/clone="701498504"
/clone="lab="A. thaliana, Ohio State clone set"
/note="cDNA library was made from selected clones from the Arabidopsis thaliana Ohio State clone set."
a 129 c 141 g 158 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B1177518 737 bp mRNA EST 09-JUL-2001
EST518463 cSTE Solanum tuberosum cDNA clone cSTE10D9 5' sequence,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                             313 egecetageetegetgaegeeteegatateggeegatteeattegeeggagtatgttgae 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gttatgactgtttctttccacaaatttggggactttttcccaggaactggtcacataaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 373 ttootogetteegtttegeeggaatetatgggegateetteegetgeaegaaacetaagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cgattcaatgtcggtgaggattgtcctgtcttcgacggactttttgatttttgccgtgct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         613 gtaaacgacatcgtgctagggattctggagttgctcaagatgtttaagcgggttctctac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      673 atagatattgatgtccaccatggagatggagtggaagaagcgttttacacccactgataga
                                                     of Incyte
                                                                                                                                                                                                                                                                                                                                                                                                            3;
                                                                                                                                                                                                                                                                                                                                                                     28.3%; Score 509.2; DB 10; Length 553; 97.1%; Pred. No. 1.6e-82; 1ve 0; Mismatches 13; Indels 3;
                                                                                  4633 World Parkway Circle, St. Louis, MO 63134, USA Tel: 877-577-2733
Fax: 314-427-3324
Email: service@genomesystems.com.
                                                   subsidiary
Arabidopsis thaliana Gene Expression MicroArray
Unpublished (1999)
                                                     owned
                               Contact: David Smoller, Ph.D.
Genome Systems, Inc., a wholly
Pharmaceuticals, Inc.
                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BI177518.1 GI:14643329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    538 GACGATGAAAGTTCCC 553
                                                                                                                                                                                                                                                                                                                                                                                                          Matches 540; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gacgatgaaagtttcc 868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA sequence.
BI177518
                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
                                                                                                                                                                                                                                                                                                   125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
```

5

```
/note-Westers Daluescript SK(-); Site_1: BcoRI; Site_2:
Xho1: Tissue supplied by Christian Bachem and Richard
Visser (Department of Plant Breeding, wageningen
University, The Netherlands). The cSTA libraries will
attempt to capture the induction and initiation/initial
growth of the tuber in an in vitro system as described in
Bachem et al. (Plant Journal, 1996). Small microtubers
develop from axillary buds attached to stem explants when
placed on a high sucrose medium (10%). Visible
morphological changes occur synchronously at day five in
the axillary buds. The first library, cSTA (1-20) consists
of axillary buds harvested on days 1-3. This targets
those genes involved in induction of the microtubers. The
following libraries, cSTA (21-40) and cSTA (41-60),
capture genes involved in tuber initiation and outgrowth.
This library is noted as P3 in Tanksley lab notebooks."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .;
0
                                                                         Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicots;
                                                                                                                            Asteridae; euasterids I; Solanales; Solanaceae; Solanum.
1 (bases 1 to 737)
van der Hoeven, R., Bezzerides, J., Bachem, C., Visser, R., Cho, J.,
Chiemingo, A., Bougri, O., Buell, C.R., Ronning, C., Tanksley, S. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 GGATGGATGACGATAGTTTCGGTAGACTATTTCGTCCCACAATACAAAAGTCATGGAGG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /tissue_type="axillary buds of stem explants; growing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                608 gctatgtaaacgacatcgtgctagggattctggagttgctcaagatgtttaagcgggttc 667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               908 tgtatcagccagaggcagttgttcttcagtgtggtgctgactccttaagtggtgatcggt 967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 GCTATGTGAATGATATTGTTCTTGGTATTCTTGAGCTCCTCAAAGTCCACAAGCGTGTGT 60
                                                                                                                                                                                                                                                                                                      Contact: Cathy Ronning
Fire Institute for Genomic Research
For clone info: please contact Research Genetics, Libraries
Division tel 1-800-711-6195, email chadtesgen.com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  788 taagagatgttggcgctgaaaaagggaaatactatgctctaaatgttccactaaacgatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         848 gtatggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggttatggaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 11; Length 737;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 23.8%; Score 428.8; DB 11; Length Best Local Similarity 73.9%; Pred. No. 4.8e-68; Matches 544; Conservative 0; Mismatches 192; Indels
                                                                                                                                                                                                                                                        Generation of ESTs from in vitro grown microtubers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /dev_stage="7, 8 and 10 days"
/lab_host="SOLR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Solanum tuberosum"
/cultivar="Bintje"
/db_xxef="taxon:4113"
/clone="SSTE1009"
/clone="SSTE1009"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sink-tubers"
                                                                                                                                                                                                                                                                                                                                                                                                                   Seq primer: M13F-R.
                                                                                                                                                                                                                                                                                      Unpublished (2001)
                        potato.
Solanum tuberosum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        199
                                                                                                                                                                                                                                Baker, B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                ORGANISM
                                                                                                                                                  REFERENCE
AUTHORS
                                                                                                                                                                                                                                                      TITLE
JOURNAL
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                            COMMENT
                           SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
```

```
l (bases 1 to 385)
Asamizu, E., Nakamura, Y., Sato, S. and Tabata, S. A large scale analysis of CDNA in Arabidopsis thaliana: Generation of 12,028 non-redundant expressed sequence tags from normalized and DNA Res. 7, 175-180 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arabidopsis thaliana
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone_lib-"Arabidopsis thaliana green siliques Columbia"
/tissue_type-"green siliques"
/note-"Vector: pBluescriptII SK-; Site_1: EcoRI; Site_2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Avosvil5 Arabidopsis thaliana green siliques Columbia Arabidopsis thaliana cDNA clone SQL07b02F 3', mRNA sequence.
                                                                                                                                   1028 acaacgitecteteatggigtigtgggggggaagggtatactattegaaatgitgeeegit 1087
                                                                                                                                                                                                                    1088 getggtgttatgagaetgeagttgetgttggagtagagegaegaeaacaacaactteee 1147
                                                                                                                                                                                                                                                                                                   1148 atgagtattttgagtatttcggcccagattatacgcttcatgtcgacccaagtcctatgg 1207
                                                                                                                                                                                                                                                                                                                                                                              1208 agaatttaaacacgcccaaagatatggagaggataaggaacacgttgctggaacaacttt 1267
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1268 egggaetaataeaegeaeetagegteeagttteageaeaecaeeagteaategagttt 1327
361 TGGGTTGCTTCAACTTGTCTGTCAAGGGCCATGCCGCTTGCCTTAGGTACCTCAGATCCT 420
                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                    601 AGAATCTAAATTCACCTAGGGATCTGGAGAAGATGAGGAACATATTGCTTGAGCAAATCT 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661 CACAATTACCTCATGCACCTAGTGTGCCATTTCAAACCACTCCTTCTACAACAGAAGTTC 720
                                                                                                                                                                                                                                                          481 GCTGGTGCTATGAGACAGCTGCAGTTGGGGTAGAACCTGAAAACAAGTTGCCTTACA
                                                          tgggttgcttcaacttatcagtcaagggtcacgctgattgccttcggttcttaagatctt
                                                                                                                                                                                                                                                                                                                        Score 380.8; DB 10; Length 385; Pred. No. 2.9e-59;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The First Laboratory for Plant Gene Research
Kazusa DNA Research Institute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /strain="Columbia"
/db_xref="taxon:3702"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone-"SQL07b02F"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Erika Asamizu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AV567115.1 GI:8738569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21.28;
99.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1328 tggacgagccggaaga 1343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721 CCAGAGAGAAGAAGA 736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           thale cress.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AV567115/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
                                                            896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDILINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                          q
                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                  qq
```

64

5 GATTTAATGTTGGAGAAGATTGTCCTGTATTTGATGGCCTGTTTGAGTTTTGTCAGCTGT

```
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                          ò
                                               q
                                                                      ò
                                                                                           q
                                                                                                                   à
                                                                                                                                        g
                                                                                                                                                               õ
                                                                                                                                                                                    g
                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Abdrakhmanov, I., Lodygin, D., Geroth, P., Arakawa, H., Law, A., Plachy J., Korn, B. and Buerstedde, J.M.
A large database of chicken bursal ESTs as a resource for the analysis of vertebrate gene function
Genome Res. 10 (12), 2062-2069 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                           Gallus gallus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
Phasianinae; Gallus,
1 (bases 1 to 765)
                                                                                                                                                                                                                                                                                                                                                                              mRNA EST 25-JAN-2001
gallus cDNA clone 19d16r1, mRNA sequence.
                     gatgatgataaaacctcttcatggttactcatgtcgtggtggcgcaactacggacagggac 1470
                                                                                                                                                                                                                                                     agaaacaagttaggggaatgaatgattctttgatgttttttcagcaaccttttgagttct 1650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 434 gattcaatgtcggtgaggattgtcctgtcttcgacggactttttgatttttgccgtgctt 493
  0; Gaps
                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Martinistr. 52, 20251 Hamburg, Germany
Email: URL: http://genetics.hpi.uni-hamburg.de/dt40est.html.
Location/Qualifiers
                                                                                                                          265 GATGATGATAAACCTCTTCATGGTTACTCATGTGGTGGTGGCGCAACTACGGACGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 others
   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches 230; Indels
 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_type="Bursa of Fabricius"
120 c 189 g 242 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20.3%; Score 365; DB 10;
68.6%; Pred. No. 1.6e-56;
 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism-"Gallus gallus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref-"taxon:9031"
/clone="19d16r1"
/clone_lib-"dkf2426"
                                                                                                                                                                                                                                                                                                1651 gtgaaaacgctgcattgattagaac 1675
                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cellular Immunology
Heinrich-Pette-Institute
                                                                                                                                                                                                                                                                                                                                                                       AJ394397 dkfz426 Gallus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Buerstedde JM
                                                                                                                                                                                                                                                                                                                                                                                                             AJ394397.1 GI:7124259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /strain-"CB"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 58.09
Matches 503; Conservative
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20568495
                                                                                                                                                                                                                                                                                                                                                                                                                                    chicken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         213
                                                                                                                                                                                                                                                                                                                                                                                                                        EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                     'n
Matches
                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                     1291
                                                                  1351
                                                                                                                                                         1471
                                                                                                                                                                                                                                                  1591
                                                                                                                                                                                                                                                                                                                     25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                AJ394397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                      RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                           LOCUS
                     ò
                                         a
                                                                 ò
                                                                                      g
                                                                                                                                 a
                                                                                                                                                         ò
                                                                                                                                                                               a
                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                   g
                                                                                                             ò
                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. [Libaes] 1 to 999)
Libaes, Gruber, C., Jessee, J. and Polayes, D. Full-length CDNA libraries and normalization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AL518877 999 bp mRNA EST 13-FEB-2001
AL518877 LTI_NFL011_NBC1 Homo sapiens cDNA clone CS0DA011YG11 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                getteaacttateagteaagggteacgetgattgeetteggttettaagatettaeaaeg 1033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1034 ttcctctcatggtgttgggtggtgaagggtatactattcgaaatgttgcccgttgctggt 1093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1094 gitalgagacigcagitgcigitggagiagagccggacaacaaactcccitacaatgagi 1153
                                                                                                                                                                             554 tcaattggggcggtgggcttcaccatgctaagaaagcgaggcttctgggttttgctatg 613 | 1111111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1111 |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         914 agccaqaagcaqttgttcttcaqtgtgqtgctqactccttaaqtggtgatcggttgggtt 973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                185 TCAATGATATTGTGCTTGCCATCCTTGAGTTACTGAAGTATCACCAAAGAGTGTTGTATA 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           854 acgatgaaagtttccgcagcttgtttagacctcttatccagaaggttatggaagtgtatc 913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    245 TTGATATTGATATCCATCATGATGGTGATGGTGATGAAGCATTTATACCACAGATCGTG
                                                                                                                                                                                                                                                                                                                                                                         614 taaacgacatcgtgctagggattctggagttgctcaagatgtttaagcgggttctctaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               794 atgttggcgctgaaaaagggaaatactatgctctaaatgttccactaaacgatggtatgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
Email: segref@genoscope.cns.fr, Web : www.genoscope.cns.fr.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                674 tagatattgatgtccaccatggagatggagtggaagaagcgttttacaccactgatagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  425 ATGATGAGTCGTATGGACAGATATTCAAACCAATTATATCAAAAGTAATGGAGATGTACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    485 AGCCCAGTGCTGTAGTATTACAGTGTGCAGCAGATTCATTGTCTGGTGATAGGTTGGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
1. .999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AL518877.1 GI:12782370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           prime, mRNA sequence.
AL518877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1154 attttgagtattt 1166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTITGAGIAIT 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       numan.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
AL518877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
```

```
g
                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                  a
                                                                                                              ò
                                                                                                                                                 /note="Organ: Drain; Vector: pCMVSPORT 6; 1st strand cDNA was primed with a NotI-oligo(dT) primer. Five prime end enriched, double-stranded cDNA was digested with Not I and cloned into the Not I and Eco RV sites of the pCMVSPORT 6 vector. Library is not normalized, but is the control for the normalized libraries. Library was constructed by Life Technologies. Contact: Feng Liang Life Technologies. Contact: Feng Liang Life Technologies. division of Invitrogen 9800 Medical Center Drive Rockville, Maryland 20850, USA Fax: (1) 301 610 8371 Email: flianglifetech.com URL: http://fulllength.invitrogen.com" 10 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       174 geggegagteagttaettetaegageegaegateggagaetaetaetaetaeggteaaggeea 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       234 cccgatgaagcctcaccggatccgtatggctcatagcctaatcattcactatcacctcca 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ccgtcgcttagaaatcagtcgccctagcctcgctgacgcctccgatatcggccgattcca 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         167 CCGAAAAATGGAAATCTATCGCCCTCACAAAGCCAATGCTGAGGAGATGACCAAGTACCA 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ttcgccggagtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttc 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              227 CAGCGATGACTACATTAAATTCTTGCGCTCCATCCGTCCAGATAACATGTCGGAGTACAG 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      34] GTTTGAGTTCTGTCAGTTGTCTGTGGTGCTTGTGGCAAGTGCTGTGAAACTTAATAA 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     534 acaggacgctgatatcgctatcaattggggcggtgggcttcaccatgctaagaaaagcga 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            594 ggettetgggttttgetatgtaaacgacategtgctagggattetggagttgetcaagat 653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   654 gtttaagcgggttctctacatagatattgatgtccaccatggagatggagtggaagaagc 713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 641 AGGAACTGG-GACCTACGGGATAACGGGGCTGGCAAAGGCAAGTATTATGCTGTTAACTA 699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tecactaaacgatggtatggacgatgaaagttteegeagettgtttagaeetettateea 893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             700 CCCGCTCCGAGACGGGATTTATGACGAGTYCTATGAGGCCATTTTCAAGCCGGTCATGTY 759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 107 CCCAATGAAGCCTCACCGAATCCGCATGACTCAWAATTTGCTGCTCAACTATGGTCTCTA 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               474 ttttgatttttgccgtgcttccgccggaggttctattggtgctgccgtcaaattaaacag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 19.6%; Score 353; DB 10; Length 999; Best Local Similarity 62.6%; Pred. No. 2.1e-54; Matches 592; Conservative 5; Mismatches 340; Indels 8
                                                                                                          /tissue_type="neuroblastoma cells"
/lab_host="DH10B"
                                                              /clone_lib="LTI_NFL011_NBC1"
/sex="male"
/organism-"Homo sapiens"
                                           /clone-"CS0DA011YG11"
                       /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        合
```

```
Direct Submission

Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail:
seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveromyces thermotolerans, Kluyveromyces lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii war. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kluyveromyces lactis
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
FEBS Lett, 487 (1), 3-12 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Souciet, J.L., Aigle, M., Bon, E., Brottier, P., Casareqola, S., Bolottin-Fukuhara, M., Bon, E., Brottier, P., Casareqola, S., de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O., Potier, Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J.
                                                                                                                954 aagt-ggtgatcggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttc 1012
                                                                                                                                                                                                                                CNS072YS 977 bp DNA GSS 07-JUL-2001 clone BA0AB015D09 of library BA0AB from strain CLIB 210 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Saccharomycetales: Saccharomycetaceae; Kluyveromyces.
1 (bases 1 to 977)
Bolotin-Fukuhara,M., Toffano-Nioche,C., Artiguenave,F.,
Duchateau-Nguyen,G., Lemaire,M., Marmeisse,R., Montrocher,R.
Robert,C., Termier,M., Wincker,P. and Wesolowski-Louvel,M.
Genomic exploration of the hemiascomycetous yeasts: 11.
                                                                                                                                                 894 gaaggitalggaagigtalcagccagaggcagitgitcilcagigiggigcigaciccil
                              880 AATTTGTCAAGAGGTTTAACCTGCCTATKCYGATGCYGGGAGGGGGGTGGTTACACAYTTC
                                                                                                                                                                                                                                                                                                                                             luyveromyces lactis, genomic survey sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Kluyveromyces lactis"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kluyveromyces lactis
FEBS Lett. 487 (1), 66-70 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /variety="lactis"
/db_xref="taxon:28985"
/clone="BAOAB015D09"
/clone_lib="BAOAB"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /strain="CLIB 210"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AL426842
AL426842.1 GI:12210036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kluyveromyces lactis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 977)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1, .977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20584721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20584711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CNS072YS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
```

```
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                               CNS06TTS/c
                                                                                                         DEFINITION
                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                      VERSION
KEYWORDS
                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                    g
                                                                                                                                                    ä
<1 >956
/note="similar to Saccharomyces cerevisiae ORF YNL330c
RPD3 ; histone deacetylase B ]"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ttaagtggtgatcggttgggttgcttcaacttatcagtcaagggtcacgctgattgcctt 1011
                                                                                                                                                                             172 aageggegagteagttacttetaegageegateggagateggagetaetaeggteaagge 231
                                                                                                                                                                                                                                          232 cacccgatgaagecteaccggatecgtatggeteatagectaateatteactateacete 291
                                                                                                                                                                                                                                                                    CATCCTATGAVACCACATAGAATAAGAATGACACATTCGTTGATTATGAATTACGGTTTG 147
                                                                                                                                                                                                                                                                                                                                                                                                                    412 tecgetgeaegaaacetaaggegatteaatgteggtgaggattgteetgtettegaegga 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccaggaactggtcacataagagatgttggcgctgaaaaagggaaatactatgctctaaat 831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cagaaggttatggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactcc 951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gttccactaaacgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatc 891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 742 GGTAAAATTATGGAATGGTACCAACCTTCTGCCGTGGTACTCCAATGCGGTGGTGACTCT 801
                                                                                                                                                      Gaps
                                                                                                                                                                                                        28 AAGAAGCGAGTBGCATACTITITATGATGCTGGTGGGGAAACTATGCTTATGGTGCAGGA 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ctttttgatttttgccgtgttccgccggaggttctattggtgctgccgtcaaattaaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               322 TIGTACGAGTACTGTAGTATATCTGGVGGTGGTTCTATGGAGGGTGCAGATTAAAMC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     712 gegittiacaccactgatagagitatgacigittetitecacaaaittggggactitite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             292 caccytcycttagaaatcagtcyccctaycctcyctyacycctccyatatcygccyattc
                                                                                                                                                                                                                                                                                                                            148 TATAAGAAGATGGAAATTTACAGGGCTAAACCTGCAACGAAACAGGAGATGTGTCAGTYC
                                                                                                                                                                                                                                                                                                                                                            cattcgccggagtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatcct
                                                                                                                                                                                                                                                                                                                                                                                                                                     532 agacaggacgctgatatcgctatcaattggggcggtgggcttcaccatgctaagaaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    382 CGAGGCAAATGTGATGTTGCCATTAACTATGCTGGTGGTTTACATCATGCCAAAVMATCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGCTTCAGGGTTCTGTTACTTGAACGATATAGTGCTAGGTATCATCGAGTTGTTAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             652 atgittaagegggttetetacatagatatigatgteeaccaiggagatgggagga
                                                                                                                                                                                                                                                                                                                                                                             592 gaggettetgggttttgetatgtaaacgacategtgetagggattetggagttgeteaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           802 TTATCCGGCGATCGTTTAGGTTGTTTCAACYTTTCAATGAAGGGTCACGCAAACTG-TGT
                                                                                                                                                    7;
                                                                                                                       Length 977;
                                                               others
                                                                                                                                                    Indels
                                                              11
                                                                                                                       DB 13;
                                                                                                                                              9; Mismatches 337;
                                                                                                                       Score 347.2; DB 1
Pred. No. 2.3e-53;
                                                            299 t
                                              /evidence=not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1072 cgaaatgttgcccgttgctggtgtt 1096
                                                                                                                    Query Match
Best Local Similarity 61.8%;
Matches 572; Conservative
                                                              ď
                                                            263
   misc_feature
                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                        208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      861
                                                                                                                                                                               ò
                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
Direct Submission
Submitted (07-SEP-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, C F 5706, 91057 EVRY cedex, FRANCE. (E-mail:
3 sequef@genoscope.cns.fr - Web : www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces servazzii, Zygosaccharomyces rouxii, Saccharomyces kluyveri, Kluyveromyces thermotolerans, Kluyveromyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lactis var. lactis, Kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenli var. hansenli, Pichia sorbitophila, Candida tropicalis and Yarrowia inpolytica. Genomic inserts of 3 to 5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                       CNSO6TTS 907 bp DNA GSS 05-JUL-2001
T3 end of clone AXOAA001H05 of library AXOAA from strain CBS 7064
of Pichia farinosa, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 (bases 1 to 907)
Souciet,J.L., Aigle,M., Artiguenave,F., Blandin,G.,
Souciet,J.L., Aigle,M., Artiguenave,F., Blandin,G.,
Souciet,J.L., Aigle,M., Bon,E., Brottler,P., Casaregola,S.,
de-Montigny,J., Dujon,B., Durrens,P., Lepingle,A., Llorente,B.,
Malpertuy,A., Neuvegilse,C., Ozier-Kalogeropoulos,O., Potier,S.,
Saurin,W., Tekaia,F., Toffano-Nioche,C., Wesolowski-Louvel,M.,
Wincker,P. and Weissenbach,J.
Genomic exploration of the hemiascomycetous yeasts: 1. A set of
yeast species for molecular evolution studies
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        complement(<10. .>882)
//note="similar to Saccharomyces cerevisiae ORF YGL194c HOS2; putative histone deacetylase]"
/evidence=not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cerevisiae ORF YNL330c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 (bases 1 to 907)
de Montigny, J., Spehner, C., Souciet, J., Tekaia, F., Dujon, B., Wincker, P., Artiquenave, F. and Potier, S. Genomic exploration of the hemiascomycetous yeasts: 15. Pichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 907;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Saccharomycetales; Saccharomycetaceae; Pichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2; Mismatches 292;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 347; DB 13;
Pred. No. 2.6e-53;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note-"similar to Saccharomyces
RPD3 ; histone deacetylase B ]"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism-"Pichia farinosa"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /evidence-not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEBS Lett. 487 (1), 87-90 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /db_xref-"taxon:4920"
/clone-"AX0AA001H05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                complement(<4. ,>888)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                 945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       153 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /strain="CBS 7064"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone_lib-"AX0AA"
/note-"end : T3"
921 CGAAACGTGGCTCGTACATGGGCTT
                                                                                                                                                                                                                                                                                                                         AL414998.1 GI:12193655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3 (bases 1 to 907)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          216 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 521; Conservative
                                                                                                                                                                                                                                                                                                                                                                                            Pichia farinosa.
                                                                                                                                                                                                                                                                                                                                                                                                                       Pichia farinosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sorbitophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20584725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
```

Page

Mar

Sar

a

ò

g ò g ò q ò qq ò

ò

```
Laboratory
            Unpublished (1999)
Contact: Ben Burr
Biology Department
Brookhaven National Laborato
Upton, NY 11973, USA
Tel: 516-344-3396
Fax: 516-344-3407
Email: burr@bnluxl.bnl.gov
                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                               19.18;
73.48;
 ESTs from developing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 437; Conservative
                                                                                                                                                                                            609.
                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                          125
                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 10
CNS06MLI/c
                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                555
                                                                                                                                                                             FEATURES
                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BNLGH17026 Six-day Cotton fiber Gossypium hirsutum cDNA 5' similar to (AF045473) histone deacetylase [Zea mays], mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Viridiplantae; Streptophyta; Embryophyta: Tracheophyta;
Spermatophyta: Magnoliophyta: eudicotyledons; core eudicots;
Sosidae; eurosida II; Malvales; Malvaceae; Gossypium.
1 (bases 1 to 609)
Blewitt,M., Matz,E.C., Davy,D.F. and Burr,B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            975 cttcaacttatcagtcaagggtcacgctgattgcttcggttcttaaggatcttacaacgt 1034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1035 tecteteatggtgttgggtggtgaagggtatactattegaaatgttgeeegttgetggtg 1094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1095 ttatgagactgcagttgctgttggagtagagccggacaacaactcccttacaatgagta 1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1155 ttttgagtatttcggcccagattatacgcttcatgtcgacccaagtcctatggagaattt 1214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          220 ATACGAATCCAGTATATTGAATAATGTCAAACTTCCTTCAGAGCTTCCATACAATGAGTA 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   160 CTACGAGTAMAATGGCCCCGATTATAAGTTGGATGTGAGACCATCTAACATGTACAATGC 101
                                                                                                                                                                                                                                 674
                                                                                                                                                                                                                                                                                                       734
                                                                                                                                                                                                                                                                                                                                          581
                                                                                                                                                                                                                                                                                                                                                                             794
                                                                                                                                                                                                                                                                                                                                                                                                            521
                                                                                                                                                                                                                                                                                                                                                                                                                                               854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       460 TGACGCTACTTATAAGTCTGTATTCCAGCCTGTTATTAGCAAAATAATGGAATGGTATCA 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    280 ACCCATGATGGTTGTGGGTGGTGGTGGTACACCATGAGAAATGTTGCAAGAACATGGGC 221
                                                                                        554
                                                                                                                         761
                                                                                                                                                                                              701
                                                                                                                                                                                                                                                                    641
                    494
                                                                                                                                                         435 attcaatgtcggtgaggattgtcctgtcttcgacggactttttgatttttgccgtgcttc
                                                                                                                                                                                                                                                                                                       795 tgttggcgctgaaaaagggaaatactatgctctaaatgttccactaaacgatggtatgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          915 gccagaggcagttgttcttcagtgtgtggtgctgactccttaagtggtgatcggttgggttg
                                                   880 ATTCAACGTCGGGGATGACTGTCCAGTTTTCGATGGATTGTKTGAATACTGTGGAATTCT
                                                                                                            820 GGGTGGTGGCTCCATGGAAGGTGCTGCTAGATTAAACAGAGGRAAATGTGATATTGCCAT
                                                                                                                                                                                          760 AAACTACGCTGGTGGATTACATCATGCTAAAAAGTCCGAGGCTTCTGGATTTTGTTACTT
                                                                                                                                                                                                                                 615 aaacgacatcgtgctagggattctggagttgctcaagatgtttaaggcgggttctctacat
                                                                                                                                                                                                                                                                  700 GAATGATATAGTATTGTGTATTATAGAACTTTTGAGGTATCACTCTAGAGTTCTCTATGT
                                                                                                                                                                                                                                                                                                                                      640 GGATATTGATGTTCACCATGGTGATGGTGTCGAAGAGGCCTTTTATTCCACTGATAGAGT
                                                                                                                                                                                                                                                                                                                                                                           tatgactgtttctttccacaaatttggggactttttcccaggaactggtcacataagaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    855 cgatgaaagtttccgcagcttgtttagacctcttatccagaaggttatggaagtgtatca
                                                                                        1215 aaacacgeeeaaagatatggagagggtaaggaaca 1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10 CAATTCCCCAGAGTACCTTGATAAGATATTGACCA 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AI726977.1 GI:5045829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               upland cotton.
Gossypium hirsutum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                     675
                                                                                                                                                                                                                                                                                                                                                                         735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
AI726977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
```

a

g

ò

g

ò a

ò

ò a ò qq ò 윱 ò 쉽 õ g

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCUS CNS06MLI 1030 bp DNA GSS 17-JUN-2001
DEFINITION T3 end of clone AU0AA005D08 of library AU0AA from strain CBS 3082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9/9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           556
                                                                                                                                                                                                                                                                                  196
                                                                                                                                                                                                                                                                                                                                                    316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  494
                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15 GAGGCGCATCATTACGGTCCGGGTCCCGACGGGAAGAAGCGGCGTGTGACATACTTCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                              gtatggeteatageetaateatteaetateaeeteeeeegtegettagaaateagtegee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tegetteegtttegeeggaatetatgggegateetteegetgeaegaaaeetaaggegat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                375 CTGGTGGCTCCATTGGTGCCGCCGTTAAGTTGAATAAAGGGGATGCCGACATCGCCATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   attgggggggggggttcaccatgctaagaaaagcgaggcttctggttttgctatgtaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ctagectegetgaegecteegatateggeegatteeattegeeggagtatgttgaettee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      255 rcaacgccgrcacccccarrccarcrccgaccccgcrtarrcrcccarrrgaagcgrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             617 acgacatcgtgctagggattctggagttgctcaagatgtttaagcgggttctctacatag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          137 goggeatetetetgeegtegggaeeegaaeggaegtaagggegagteagttaettetaeg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             677 atattgatgtccaccatggagatggagtggaagaagagcgttttacaccactgatag 731
                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                            others
                                                                                                                                                                                                                                                 Indels
           /coltivar-"Acala Maxxa"
/db_xref="taxon:3655"
/clone_lib="six-day_cotton fiber"
/tlssue_type="immature fiber"
/dev_stage="Six days post anthesis"
/lab_host="XLIBlue"
/note="Vector: lb g l61 t 2 ot
                                                                                                                                                                                                              Score 343.4; DB 10;
Pred. No. 1.4e-52;
                                                                                                                                                                                                                                               0; Mismatches 158;
/organism="Gossypium hirsutum"
```

```
863 TATAAAAAATGGAAATTTACAGAGCGAAGCCAGCAACAAAGCAAGAGATGTGTCAGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BF324960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
                                                    ð
                                                                                            a
                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                        ò
                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission

L Submitted (07-28P-2000) Genoscope - Centre National de Sequencage,
2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail:
2 rue Gaston Cremieux, CP 5706, 91057 EVRY cedex, FRANCE. (E-mail:
5 seqref@genoscope.cns.fr - Web: www.genoscope.cns.fr)

This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiquus, Saccharomyces servazii, Zygosaccharomyces rouxii, Saccharomyces kluyverowyces thermotolerans, Kluyveromyces lactis kluyveromyces marxianus var. marxianus, Pichla angustu, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to 5 kb were prepared and both extremilies were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
                                                                                                                                                                                                                                                                                                                                                 Souciet, J.L., Aigle, M., Artiguenave, F., Blandin, G., Bolotin-Fukubraa, M., Bon, E., Brottier, P., Casaregola, S., de-Montigny, J., Dujon, B., Durrens, P., Lepingle, A., Llorente, B., Malpertuy, A., Lowveqilse, C., Ozier-Kalogeropoulos, O., Potier, S. Saurin, W., Tekaia, F., Toffano-Nioche, C., Wesolowski-Louvel, M., Whicker, P. and Weissenbach, J. Genomic exploration of the hemiascomycetous yeasts: 1. A set of yeast species for molecular evolution studies
                                                                                                        Saccharomýces kluyveri
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cerevisiae ORF YNL330c
                                                                                                                                                                                                  Neuveglise, C., Bon, E., Lepingle, A., Wincker, P., Artiguenave, F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cacccgatgaagcctcaccggatccgtatggctcatagcctaatcattcactatcactc 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              292 caccgtcgcttagaaatcagtcgccctagcctcgctgacgcctccgatatcggccgattc 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aagcggcgagtcagttacttctacgagccgacgatcggagactactactacggtcaaggc 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 983 AAAAAGAGATTGCCTACTTCTATGATGCGGACGTTGGGAACTACGCTTATGGTGCTGGT 924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 13; Length 1030;
                                                                                                                                                                                                                     Gaillardin, C. and Casaregola, S. Genomic exploration of the hemiascomycetous yeasts:
Saccharomyces kluyveri, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism-"Saccharomyces kluyveri"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. 1.8e-52;
1; Mismatches 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         complement(<3. .>1029)
/note="similar to Saccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; histone deacetylase B ]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 290 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /evidence=not_experimental
247 c 182 g 290 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19.0%; Score 342.2; 59.9%; Pred. No. 1.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      putative frameshift(s)"
                                                                                                                                                                                                                                                                                  FEBS Lett. 487 (1), 56-60 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /strain-"CBS 3082"
/db_xref-"taxon:4934"
/clone-"AU0AA005D08"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone_lib-"AUOAA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="end : T3"
                                           AL405628.1 GI:12168630
                                                                                      Saccharomyces kluyveri.
                                                                                                                                                                                                                                                                  Saccharomyces kluyveri
                                                                                                                                                                            (bases 1 to 1030)
                                                                                                                                                                                                                                                                                                                                 (bases 1 to 1030)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 1030)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 59.99
Matches 592; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20584711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                           VERSION
KEYWORDS
                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                           MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                      SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

```
:D:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Rosídae; eurosíds I; Fabales; Fabaceae; Papilionoideae; Phaseoleae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BF324960 617 bp mRNA EST 21-NOV-2000 su29e12.yl Gm-c1068 Glycine max cDNA clone GENOME SYSTEMS CLONE I Gm-c1068-624 5' similar to TR:Q9ZIP8 Q9ZTP8 HISTONE DEACETYLASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1012 cggttcttaagatcttacaacgttcctctcatggtgttgggtggtgaagggtatactatt 1071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             952 ttaagtggtgatcggttgggttgcttcaacttatcagtcaagggtcacgctgattgcctt 1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1072 cgaaatgttgcccgttgctggtgttatgagactgcagttgctgttggagtagagccggac 1131
352 cattogeoggagtatgttgactteetegetteegtttegeeggaatetatgggegateet 411
                                                      803 CATACTGATGAATACATTGACTTTTTATCACGTGTTACCCCAGATAACTTGAACATGTTC 744
                                                                                                                   471
                                                                                                                                                                                                                                                                                         689 CTTTACGAATATIGTAGTATCTCTGGTGGTGGCTCAATGGAGGGTGCAGCTCGTTTGAAC 630
                                                                                                                                                                                                                                                                                                                                                      591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           652 atgittaagogggitcictacatagatattgaigtccaccaiggagaiggagtggaagaa 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          712 gegittitacaccactgatagagitaigactgittettitecacaaaiitggggaettitie 771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   389 CCCGGTACTGGTGAGCTAAGGGATACCGGTGTTGGAAAAGGTAAGTACTATTCTGTCAAT 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       209 TTATCGGGTGATCGTTTGGGTTGCTTCAACCTTTCTATGAAGGGACACGCCAACTGTGTC 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30
                                                                                                                                              743 CAAAAGGAAAGTGTCAAG-----TTTAATGTCGGAATGATTGTCCCGTGTTTGATGT
                                                                                                                                                                                                                                                                                                                                                      532 agacaggacgctgatatcgctatcaattggggcggtgggcttcaccatgctaagaaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     629 AGAGGAAAATGTGATGTTGCTATCAACTACGCTGGTGGATTGCATCATGCGAAAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     592 gaggettetgggttttgetatgtaaacgacatcgtgetagggattetggagttgeteaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          772 ccaggaactggtcacataagagatgttggcgctgaaaaagggaaatactatgctctaaat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          412 teogetgeacgaaacetaaggegatteaatgteggtgaggattgteetgtettegaegga
                                                                                                                                                                                                                                   472 ctttttgatttttgccgtgcttccgccggaggttctattggtgctgccgtcaaattaaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gttccactaaacgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89 AGAAATGTTGCTAGAACTTGGGCTTTCGAAACAGGTTTGTTGAACAATGTGGTCTTAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1132 aacaaactcccttacaatgagtattttga 1160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAGAATTACCTTACAATGACTACTATGV 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BF324960.1 GI:11274619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BF324960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Glycine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
ORGANISM
```

```
g
                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Another "Vector: pBluescript II SK+; Site_I: EcoRI; Site_2:
XhoI: The cDNA library was constructed from mRNA isolated
from drought stressed leaf tissue of the cultivar Williams
82. The month old greenhouse grown plants were deprived of
water for 3 days prior to harvesting the stressed leaf
tissue. Complementary DNA was synthesized from mRNA using
a primer consisting of a poly(dT) sequence with a XhoI
restriction site. EcoRI adapters were ligated to the
blunt-ended cDNA fragments followed by XhoI digestion. The
CDNA fragments were directionally cloned into the
ligated cDNA fragments were transformed into DH10B host
cells (GibcoBRL). This library was constructed in the
laboratory of Dr. Randy Shoemaker.
1 others
1 (bases 1 to 617)
Shoemaker, K. Kehn, P., Vodkin, L., Erpelding, J., Coryell, V., Khanna, A., Bolla, B., Marra, M., Hillier, L., Kucaba, T., Martin, J., Beck, C., Wylie, T., Underwood, K., Steptoe, M., Thaising, B., Allen, M., Bowers, Y., Person, B., Swaller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R., Ritter, E., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, P., Waterston, R. and Wilson, R.
                                                                                                                                                                                                                                                                                                                                 Tel: 314 286 1800
Fax: 314 286 1810
Email: estéwatson.wustl.edu
This clone is available through: Genome Systems, Inc. 4633 World
Parkway Circle St. Louis, Missouri 63134 For further information
call: (800) 430-0030 or (314) 427-3222 FAX:(888) 919-3324 or (314)
427-3324 or contact: cloneségenomesystems.com or
info@genomesystems.com web site: www.genomesystems.com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /clone_lib="Gm-c1068"
/tissue_type="Leaf, drought stressed, 1 month old plants,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 183 GTTGTTCTTCAATGTGGAGCTGACTCGTTGTCTGGTGGATCGGTTGGGTTGCTTCAACTTG 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  805 gaaaaagggaaatactatgctctaaatgttccactaaacgatggtatggacgatgaaagt 864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123 TTCCGTGGTCTGTTTCGCCCCATCATTCAAAAGTCATGGATGTTTATCAACCGGATGCA 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               745 tetttecacaaatttggggaettttteeaggaaetggteacataagagatgttggeget 804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 TCATTTCATAAGTTTGGGGATTTTTTCCCAGGAACTGGGCACATTAAAGACATTGGGGTG 62
                                                                                                                                                                                                                                                                                                                    63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        865 ttecgeagettgtttagacetettatecagaaggttatggaagtgtateageeagggea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db_xref="taxon:3847"
/clone="GENOME SYSTEMS CLONE ID: Gm-c1068-624"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 617;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18.9%; Score 341; DB 11; Length 6; 74.6%; Pred. No. 3.7e-52; tive 0; Mismatches 146; Indels
                                                                                                                                                                                                      Unpublished (1999) Contact: Shoemaker K/Public Soybean EST Project Public Soybean EST Project Washington University School of Medicine Washington Park Parky School of Medicine Tel: 314 286 1800 Pax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism-"Glycine max"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  High quality sequence stop: 420.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         greenhouse grown" /lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     = = =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            428; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ouery Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              925
                                                                                                                                                                                TITLE
JOURNAL
     REFERENCE
                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
/clone_lib="til_NFL001_NBC4"
/sxx="male"
/kisue_type="neuroblastoma cells"
/lab_host="DHIOB"
/lab_host="DHIOB"
/note="Organ: brain; Vector: pCMVSPORT 6; lst strand cDNA
was primed with a NotI-oligo(dT) primer. Five prime end
enriched, double-stranded cDNA was digested with Not I and
cloned into the Not I and Eco RV sites of the pCMVSPORT 6
vector. Library was normalized. Library was constructed
by Life Technologies. Contact: Feng Liang Life
Technologies, a division of Invitrogen 9800 Medical Center
Drive Rockville, Maryland 20850, USA Fax: (1) 301 610
8311 Email: fliang@lifetech.com URL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
Sukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 919)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'n
                                                                                             1164
                                                                                                                                                                                                                                                                                       1225 aaagatatggagagataaggaacacgttgctggaacaactttcgggactaatacacgca 1284
1045 gigitigggiggigaagggiatactaticgaaaigitigeeegiigeiggigitaigagaei 1104
                                                                                                                                                                                                                                                                                                                        483 AGTGATCTGGAAAAAATTCGGAATACATTACTGGAACAACTTTNCAGGCTTGCTCATGCA 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             174 geggegagteagttaettetaegageegaegateggagaetaetaetaeggteaaggeea 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AL531607 919 bp mRNA EST 13-FEB-2001
AL531607 LTI_NFL001_NBC4 Homo sapiens cDNA clone CSODM002YH15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gcagttgctgttggagtagagccggacaacaaactcccttacaatgagtattttgagtat
                                                                                                                                                                                              1165 ttcggcccagattatacgcttcatgtcgacccaagtcctatggagaatttaaacacgccc
                           303 GTCTTGGGTGGGGGAGGATATACGGTTCGCAATGTTGCTCGTTGTTGGTGTTATATGAGACT
                                                                                                                                                                                                                                              423 TTTGGCCCGGACTATAATCTTCATGTTGAGCCATCCACAATGGAAAACCTAAACACCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 10; Length 919;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Li,W.B., Gruber,C., Jessee,J. and Polayes,D. Full-length cDNa libraries and normalization Unpublished (2001)
Contact: Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   http://fulllength.invitrogen.com"
208 c 253 g 223 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 18.9%; Score 340.2; DB 10;
Best Local Similarity 63.1%; Pred. No. 4.4e-52;
Matches 558; Conservative 1; Mismatches 319;
                                                                                                                                                                                                                                                                                                                                                                                         cctagcgtccagtttcagcacaccaccagtca 1318
                                                                                                                                                                                                                                                                                                                                                                                                                   543 CGCAGTGCACCTTTTCAAACAACACCATCGGTCA 576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="CSODM002YH15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AL531607.1 GI:12795100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 prime, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            919 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. .919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AL531607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
TITLE
JOURNAL
                                                                                                1105
                                                                                                                                                                                                                                                                                                                                                                                         1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AL531607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

ä

```
Lycopersicon esculentum
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Asteridae; euasterids I; Solanales; Solanaceae; Solanum;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EST296314 tomato flower buds 3-8 mm, Cornell University Lycopersicon esculentum cDNA clone croB6011 similar to Zea mays histone deacetylase, mRNA sequence.
654 gtttaagcgggttctctacatagatattgatgtccaccatggagatggagtggaagagc 713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-MAY-2001
                                                                    cogtogettagaaatcagtcgcctagcctcgctgacgcctccgatatcggccgattcca
                                                                                                        354 ttcgccggagtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttc
                                                                                                                                                                                     C----AAGCAGATGCAGAGATTCAACGTTGGTGAGGACTGTCCAGTATTCGATGGCCT
                                                                                                                                                                                                                 ttttgatttttgccgtgcttccgccggaggttctattggtgctgccgtcaaattaaacag
                                                                                                                                                                                                                                                                                                                          ggcttctgggttttgctatgtaaacgacatcgtgctagggattctggagttgctcaagat
                                                                                                                                                                                                                                                                                                                                            CAGCGATGACTACATTAAATTCTTGCGCTCCATCCGTCCAGATAACATGTCGGAGTACAG
                                                                                                                                                               cgctgcacgaaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacggact
                                                                                                                                                                                                                                                                        acaggacgetgatategetateaattgggggeggtgggetteaceatgetaagaaaagega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      694 ccccccccacaccccarrcarcaccacrcrarcacccarrrrcaaccccrrarcac
                                                                                                                                                                                                                                                                                                                                                                                            aggaactggtcacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tecactaaacgatggtatggacgatgaaagttteegeagettgtttagacetettateea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gaaggttatggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactcctt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                814 ATCTGGGGRTCGGTTAGGTTGCTTCAATCTAACTATCAAAGGACACGCCAAGTGTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1014 -gttcttaagatcttacaacgttcctctcatggtgttgggtggtg 1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AW217600.1 GI:6528474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   621 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lycopersicon.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AW217600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AW217600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tomato,
                                                   594
                                                                               091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                             414
                                                                                                                                                                                        580
                                                                                                                                                                                                                                                                      534
                                                                                                                                                                                                                                                                                                                         594
                                                                                                                                                                                                                                                                                                                                                                                                                                   714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AW217600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
 ò
                                                   ò
                                                                            g
                         a
                                                                                                        ò
                                                                                                                                a
                                                                                                                                                            ò
                                                                                                                                                                                    qq
                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            음
```

(bases 1 to 621)

REFERENCE

```
van der Hoeven,R.S., Bezzerides,J.L., Matern,A.L., Holt,J.E., Liang,F., Upton,J., Hansen,T., Craven,M.B., Bowman,C.L., Ahn,S., Ronning,C.M., Fraser,C.M., Martin,G.B., Giovannoni,J.J. and Tanksley,S.D. Generation of ESTs from tomato flower tissue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                       mm, Cornell University"
                                                                                                                                                                                                                                                                                                                 /tissuc_type="flower"
//tissuc_type="flower"
/dev_stage="3-8mm buds"
/fore_"vector: pBlueScript SK(-); Site_1: EcoRI; Site_2:
Xhol; supplier: Tanksley; Flower buds and flowers were
taken from greenhouse plants (4-8 wks old, TAA96). They
were immediately frozen in liquid nitrogen and then
size-separated while remaining frozen."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gtgttatgagactgcagttgctgttggagtagagccggacaacaaactcccttacaatga 1151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    actaatacacgcacctagcgtccagtttcagcacaccaccaccagtcaatcgagttttgga 1331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               183 TIGCTICAACTIGICIGICAAGGGCCAIGCCGCIIGCCTIAGGIACCICAGAICCTICAA 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tttaaacacgcccaaagatatggagagataaggaacacgttgctggaacaactttcggg 1271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       243 TGTCCCTCTGATGGTATTGGTGGTGGAGGTTATACTATAAAAATGTCGCTAGGTGCTG 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          792 agatgttggcgctgaaaaagggaaatactatgctctaaatgttccactaaacgalggtat 851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63 GGATGACGATAGTTTTGGTAGACTATTTGGTCCCACAATACAAAAAGTCATGGAGGTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               972 ttgettcaacttatcagtcaaggtcacgctgattgccttcggttcttaagalcttacaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1032 egitceteteatggigitgggggggggggatatategaaatgtigeeegitgetg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGCCTCATGCACCTAGTGTGCCATTTCAGACCACTCCTTCTACAACAGAAGTCCCATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 621;
                                                                                                                                          100 Jordan Hall, Člemson, SC 29634, USA
Email: http://www.genome.clemson.edu/orders/index.html
5 prime sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches 164; Indels
                                                                                                                                                                                                                                                                                                       8-8 spnq
                                                                                                                                                                                                                                      esculentum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18.6%; Score 334.2; DB 10; 72.5%; Pred. No. 6.3e-51;
                                                                                                        Clemson University Genomics Institute
Clemson University
                                                                                                                                                                                                                                                                                                      /clone_lib="tomato flower
                                                                                                                                                                                                                                /organism-"Lycopersicon
/cultivar-"TA496"
/db_xref="taxon:4081"
/clone-"cTOB6011"
                                                                                                                                                                                               Location/Qualifiers
                                                                     Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 72.5 Matches 432; Conservative
                                                                                                                                                                                                                  1. .621
                                                                                       Contact: CUGI
                                                                                                                                                                                                                                                                                                                                                                                                                                             172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                  source
                                                   TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1212
                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

us-09-645-337-3.rst

Page 11

```
/organism="Arabidopsis thaliana"
/strain="var columbia"
/strain="var columbia"
/db_xref="taxon:3702"
/clone_lib="Lambda-PRL2"
/clone_lib="Lembda-PRL2"
/clone_lib="Lembda-PRL2"
/clone_lib="Vector: lambda Zip-Lox; Site_l: Sal; Site_2: Not;
Lambda PRL2 is a cDNA library derived from equal
quantities of 4 pools of mRNA. The mRNA sources were 1)
quantities of 4 pools of mRNA. The mRNA sources were 1)
quantities of 5 pools of proper seedlings; 2) tissue culture
grown roots; 3) staged plants half with 24 hour light
cycle, half on 16 hr light, 8 hour dark- rosettes; 4)
same plants as 3 but aerial tissue (stems, flowers and
sillques. The vector is BRL's lambda Zip-Lox. The cDNA
inserts were directionally cloned with Sal-Not arms using
oligo dT primed cDNA. "
                                                                                                                                                                                                                             Arabidopsis thaliana
Eukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Rosidae; eurosida II; Brassicales; Brassicaceae; Arabidopsis.

[ (bases 1 to 431)
Newman II. deBruijn.F.J., Green,P., Keegstra,K., Kende,H., McIntosh.L., Ohlrogge,J., Raikhel,N., Somerville,S., Thomashow,M., Retzel
                                                     AA394745 431 bp mRNA EST 30-OCT-1997
26542 Lambda-PRL2 Arabidopsis thaliana cDNA clone 164Al1XP 3', mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                   Genes galore: a summary of methods for accessing results from
large-scale partial sequencing of anonymous Arabidopsis cDNA clones
Plant Physiol. 106, 1241-1255 (1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1305 cacaccaccagtcaatcgagttttggacgagccggaagatgacatggagacaagaccaaa 1364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1365 acctcgcatntggagtggaactgcgacttatgaatcagacagtgacgatgatgataaacc 1424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1484 atgaaatggatgacgataacccagagccagacgtgaatcctccatcgtcttaaaccagct 1543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1544 tgatggtttggtgtctcttttgccatatgataatgtcggcagatttaagaaacaagttag 1603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   70 ACCCCCCCANTTGGGNGGGAACCNCCTTTGAATCCGACCGTGCCCNTGNTGATAACCC 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10 CNCNCCCCCCCGTAAACNGTTTTNNCCCCCCCCGGAATTNCCTGGGGACNAGGCCAAA 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MSU-DOE-PRL, Michigan State University, Plant Biology Bldg., E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18.5%; Score 333.6; DB 10; Length 431; 87.4%; Pred. No. 9.3e-51; tive 0; Mismatches 52; Indels 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          112 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MSU-DOE Plant Research Laboratory Michigan State University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             oligo dT primed cDNA.
104 c 93 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: 22313tcn@ibm.cl.msu.edu
Seq primer: M13 -21 dye primer.
Location/Qualifiers
                                                  mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93 g
                                                                                                                                AA394745
AA394745.1 GI:2047956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contact: Thomas Newman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 87.4
Matches 369; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tel: 517-353-0854
Fax: 517-353-9168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. 431
                                                                                                                                                                                                             thale cress.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lansing,Mi
                                                                                                          sequence.
                                                  AA394745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95148729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                        DEFINITION
                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                     VERSION
KEYWORDS
SOURCE
RESULT 1-
                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                合
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
```

```
/dozret="taxon:900"
/clone="CSDDJO07P20"
/clone=Lib="LTI_NFL008_TC2"
/clone=Lib="LTI_NFL008_TC2"
/sex="male"
/tissue_type="T cells from T cell leukemia"
/tissue_type="T cells from T cell leukemia"
/fissue_type="T cells from T cell leukemia"
/note="Vector: pcMvSpORT 6; Site_1: Not1; lst strand cDNA
was primed with a NotI-oligo(dT) primer. Five prime end
enriched, double-stranded cDNA was digested with Not I and
cloned into the Not I and Eco RV sites of the pcMvSpORT 6
vector. Library was normalized. Library was constructed by
Life Technologies. Contact: Feng Liang Life Technologies,
a division of Invitrogen 9800 Medical Center Drive
Rockville, Maryland 20850, USA Fax: (1) 301 610 8371
Email: fillang@lifetech.com URL:
http://fullength.invitrogen.com
17 a 195 c 224 g 207 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 847)
Li, W.B., Gruber, C., Jessee, J. and Polayes, D.
Full length cDNA libraries and normalization
Unpublished (2001)
                                                                                                                                          1664 attgattagaacagtgacaactgactagtattttggcccaagttagaaaatcagaatatg 1723
                                                          AL558916 B47 bp mRNA EST 16-FEB-2001
AL558916 LTI_NFL008_TC2 Homo sapiens cDNA clone CSODJ007YP20 5
250 TGATGGTTTGGTGTCTCTTTTGCCATATGATAGTCGGCAGATTTAAGAAACAAGTTAG 309
                                                                                                                                                                174 geggegagteagttaettetaegageegaegateggagaetaetaetaeggteaaggeea 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       234 coogatgaagootcacoggatoogtatggotcatagootaatcattcactatcacotoca 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       294 ccgtcgcttagaaatcagtcgccctagcctcgctgacgcctccgatatcggccgattcca 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
Email: seqrefégenoscope.cns.fr, Web : www.genoscope.cns.fr.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18.5%; Score 332.2; DB 10; Length 847; 63.6%; Pred. No. 1.3e-50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches 290;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .3e-50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5;
                                                                                                                                                                                                                                                                                                                                                                                                                            AL558916.1 GI:12903904
EST.
                                                                                                                                                                                                                                                                                                                                                                                                   prime, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human.
                                                                                                                                                                                                                        1724 tg 1725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Sim
                                                                                                                                                                                                                                                                   TG 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
JOURNAL
                                                             1604
                                                                                                                                                                                                                                                                   430
                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                           RESULT 1
AL558916
                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                g
                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                          ò
                                                                                                g
                                                                                                                                        ò
```

```
354 ttcgccggagtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttc 413
                                  ttttgatttttgccgtgcttccgccggaggttctattggtgctgccgtcaaattaaacag 533
                                       aggaactggtcacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgt 833
                                                                                                                             834 tccactaaacgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatcca 893
                                                                                                                                               474
                                                                                                                        774
       qq
                õ
                        qq
                                         g
                                 ó
                                                  ò
                                                          q
                                                                   ò
                                                                           g
                                                                                     ò
                                                                                             QQ
                                                                                                    ογ
                                                                                                              q
                                                                                                                              qq
                                                                                                                                                g
                                                                                                                       ò
                                                                                                                                        ò
                                                                                                                                                          ò
                                                                                                                                                                 q
                                                                                                                                                                            õ
```

Search completed: March 8, 2002, 23:39:07 Job time: 1449 sec